STIC-Biotech/Chem	Lib	169433	
From: Sent: C To: Subject:	Chan, Christina Monday, October 24, 2005 5:39 PM Walicka, Malgorzata; STIC-Biotech/ChemLib RE:		

Please rush. Thanks

Chris Chan

Subject:

TC 1600 New Hire Training Coordinator and SPE 1644 (571)-272-0841 Remsen, 3E89

-----Original Message-----

Walicka, Malgorzata

Sent:

Monday, October 24, 2005 3:50 PM

To:

Chan, Christina

Subject:

Christina, please authorize rush search of 3 short popeptides of SEQ ID NO:2, 3, and 9 in application 09/774,954. Please also against DNA data bases. Thank you.

Malgorzata

Malgorzata A. Walicka, Ph.D. Patent Examiner Art Unit 1652, Recombinant Enzymes USPTO, Remsen Building, Room 2C76 400 Dulany St. Alexandria, VA 22313 Mail Room 2C70 Tel. (571) 272-0944, fax (571) 273-0944

Searcher:	_
Searcher Phone:	
Date Searcher Picked up:	
Date completed:	_
Searcher Prep Time:	_
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Type of Search											
NA#	AA#:										
	Oligomer:										
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	LEXIS/NEXIS:
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	Other (Specify):

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GenCore	(c) 1993
	Copyright

OM protein - protein search, using sw model

October 25, 2005, 15:21:23 Run on:

; Search time 210.606 Seconds (without alignments) 887.482 Million cell updates/sec

Title: Perfect score:

US-09-774-954-2 1979 1 MPAGSWDPAGYLLYCPCMGR......QGRPSSFFGWDRPPKLRDEF 365 Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

1612378 seqs, 512079187 residues Searched:

1612378 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	neines omon 88400	pan t	pog	Qeeve6 bos taurus	Q6ev70 rattus norv	Q7yrz3 sus scrofa	Q91zw2 mus musculu		Q8awb4 gallus gall	Q7yre6 bos taurus	Q640s0 xenopus tro		Q7t028 brachydanio	Q8axs8 xenopus lae					Q9v6x7 drosophila	Q86sa7 drosophila	Q7qhs7 anopheles g			Q6ev68 drosophila	Q18014 caenorhabdi	Q65982 caenorhabdi	Q659r9 onchocerca	P83337 cricetulus	_	Q65916 drosophila	Q7k729 drosophila
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RESULT 1

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MEDLINE=97175972; PubMed=9023546;
MEDLINE=97175972; PubMed=9023546;
MIGHARIFICATION Of a GDP-L-fucose:POI/Peptide fucosyltransferase and enzymatic addition of 0-linked fucose to EGF domains.";
Glycobiology 6:837-842(1996)
-!- FUNCTION: Cacalyzes the reaction that attaches fucose through an EGF domains.
--- CATALYTIC ACTIVITY: Transfers an alpha-L-fucosyl residue in alpha-L-fucosyl residue from GDPcomparative analysis of human chromosome 20."; Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002). SEQUENCE FROM N.A. (ISOFORM 2). The DNA sequence and comp. Nature 414:865-871(2001). rissum=Brain; 

beta-L-fucose to the serine hydroxy group of a protein acceptor. Event=Alternative splicing; Named isoforms=2; PATHWAY: Glycosylation. -1- ALTERNATIVE PRODUCTS

"........". Sequence=VSP_001809;
Note=No experimental confirmation available;
ITISSUE SPECIFICITY: Highly expressed in heart, brain, placenta,
lung, liver, skeletal muscle, kidney and pancreas. IsoId=09H488-1; Sequence=Displayed; Name=2;

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QADHFIGNCVSSFTAFVKRERDLGGRPSSFFGWDRPFKLRD 241 SPOCYGYSRSTAAPLTMTMCLPDLKBIORAVKLWVRSLDAQSVYVATDSBSYVPFLQQLF 300 301 KGKVKVVSLKPEVAQVDLYILGQADHFIGNCVSSFTAFVKKBRDLQGRPSSFFGMDRPPK 360 GDP-fucose protein O-fucosyltransferase 1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 181 EHRPLOKYMVMSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFWA -> RENHSCVTLLFPR (in isoform 2). N-linked (GlcNAc. . .) (Potential) GO; GC:0030173; C:Cytoplasm; ISS.
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GO; GO:0046922; F:peptide-O-fucosyltransferase activity; TAS.
GO; GO:0009799; P:embryonic development; NAS.
GO; GO:0016266; P:O-Glycan processing; TAS.
GO; GO:004549; P:regulation of transcription; NAS.
Alternative splicing; Fucose metabolism; NAS.
Glycosyltransferase; Annganese; Signal; Transferie;
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365; Conservative 0; 62 160 388 Local Similarity 62 160 182 361 LRDEF 365 384 LRDEF 388 CARBOHYD VARSPLIC SEQUENCE CARBOHYD Query Match 121 CHAIN Matches ò 셤 à a à 셤 ઠે q ò 셤 ò 셤 ઠે

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25-OCT-2004 (Rel. 45, Created)
25-OCT-2004 (Rel. 45, Last sequence update)
25-OCT-2004 (Rel. 45, Last sequence update)
GDP-fucose protein O-fucosyltransferase 1 precursor (EC 2.4.1.221) STANDARD; OFUL PANTR QGEV69; B H H H H H

RESULT 2 OFUL PANTR

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161 ProLysGluHisProValLeuAlaLeuProGlyAlaProAlaGlnPheProValLeuGlu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission

E-mail: Canainfo@kazusa.or.jp, Tel:+81-438-52-3913)

On May 9, 2002 this sequence version replaced gi:1136419.
 1071 CGGGAGCCGCCTCCAGGGAGGCCGTCTTTCTTCGGCATGGACAGGCCCCCTAAG 1130
                                                                                                                                               PRI 10-JAN-2003
                                                                                                                                                                                                                                                                                                         Nagase, T., Seki, N., Ishikawa, K., Tanaka, A. and Nomura, N. Prediction of the coding sequences of unidentified human genes. V. The coding sequences of 40 new genes (KIAA0161-KIAA0200) deduced hamalysis of cDNA clones from human cell line KG-1
DNA Res. 3 (1), 17-24 (1996)

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Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
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                                                                                                                                                linear
                                                                                                                                      5189 bp mRNA
Homo sapiens KIAA0180 mRNA, complete cds.
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S Shi,S., Stanley,P., Wang,Y., Shao,L., Harris,R.J., Spellman,M.W. and Haltiwanger,R.S.
Direct Submission

Direct Submission

L Submitted (02-MAY-2001) Cell Biology, Albert Einstein College of Medicine, 1300 Morris Park Ave., New York, NY 10461, USA

Location/Qualifiers

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1 (bases 1 to 5249)

Nang,Y.; Shao,L.; Shi,S., Harris,R.J.; Spellman,M.W.; Stanley,P.
Mangi,Y.; Shao,L.; Modification of epidermal growth factor-like repeats with O-fucose. Molecular cloning and expression of a novel GDP-fucose protein O-fucosyltransferase
O-fucosyltransferase
J. Biol.
Z1523965
                                  AF375884 5249 bp mRNA linear PRI 23-OCT-2001
Homo sapiens protein o-fucosyltransferase (POFUTI) mRNA, complete
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         LysGlyLysValLysValValSerLeuLysProGluValAlaGlnValAspLeuTyrIle
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-linked (GlCNAC. .) (Potential).
FSPREHPVLALDEAPAPOPTULERNENDENVENDENVENDENVENDENVENDENVENDENVENDENVENDENVENDENVENDENVENDENVENDENVENDEN SPQCVGYSRSTAAPLTMYMCLPDIKEIORAVKLWVRSLDAQ SVYAYIDESSYVPELQQIPKGKYVKVVSLKPENVQVDIYILG QADHFIGNCVSSFTAAVKRENDLQGRSFSFFGWNRPPKLRD EF -> RENHESCYTLLEPR (in isoform 2).

FT1d=NSP 001803.
WW. 3PACCCA434D02415 CRC64;
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25-OCT-2004 (Rel. 45, Last sequence update)
25-OCT-2004 (Rel. 45, Last amoctation update)
25-OCT-2004 (Rel. 45, Last amoctation update)
GDP-fucose protein O-fucosyltransferase 1 precursor (EC 2.4.1.221)
  EMBL; AF775844; ALL09576.1; -.

REMBL; D80002; BAA11497.2; -.

REMBL; D80002; BAA11497.2; -.

REMBL; D80002; BAA11497.2; -.

REMBL; BC000527; CAC16443.1; -.

REMBL; BC000527; AC16424.1; -.

REMBL; BC000527; AC16424.1; -.

REMBL; BC00527; CC94001am; ISS.

REMBL; BC0005737; CC94001am; ISS.

GO; GO:0005737; CC; CAPODIam; ISS.

GO; GO:0005737; CC; CAPODIAM; ISS.

GO; GO:0007219; P:medutale-O-fucosyltransferase activity; TAS.

REMSCO; GO:0007219; P:medutale-O-fucosyltransferase activity; TAS.

REMSCO; GO:000528; P:medutale-O-fucosyltransferase activity; TAS.

GO; GO:000521; P:medutale-O-fucosyltransferase.

RO; GO:0005449; P:regulation of translation; NAS.

RO; GO:0005445; P:regulation of translation; NAS.
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N-linked (GlcNAc. . .) (Potential)
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100.0%; Score 1979; DB 1; Length 388;
Best Local Similarity 100.0%; Pred. No. 1.1e-160;
Matches 365; Conservative 0; Mismatches 0; Indels 0,
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ID OFUL PANTR
AC 06EV69;
DT 25-OCT-2004
DT 25-OCT-2004
DT 25-OCT-2004
DE GDP-fucose p
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PRELIMINARY;
                                                                                                                                          Bos taurus (Bovine)
                                                                                                                                                                                                                                                                                                     391 AA;
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                                                                                                                                                                                            NCBI_TaxID=9913;
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NCBI_TaxID=9913;
                                                                                                                              Name=pofut1;
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                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
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                                                                                                                                                                               Glycobiology 13:IC-5C(2003).

-1- FUNCTION: Catalyzes the reaction that attaches fucose through an O-glycosidic linkage to a conserved serine or threonine residue in EGP domains (By similarity).

-1- CATALYTIC ACTIVITY: Transfers an alpha-L-fucosyl residue from GDP-beta-L-fucose to the serine hydroxy group of a protein acceptor.
-1- COFACTOR: Manganese (By similarity).
-1- PATHWAY: Glycosylation.
-1- SIMILARITY: Belongs to the glycosyltransferase 68 family.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EHRPLOKYMVWSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Potential.
GDP-fucose protein O-fucosyltransferase
                                                                                                                                          "A new superfamily of protein-O-fucosyltransferases, alpha2-fucosyltransferases and alpha6-fucosyltransferases: phylogeny and identification of conserved peptide motifs.";
                                ran Lrogicoyres (unimipanises).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.
                                                                                                                                                                                                                                                                                                                                                                                                                   62 62 N-linked (GlCNAC. . ) (Potential).
160 160 N-linked (GlCNAC. . ) (Potential).
388 AA, 43955 MW; 3FACCCA434D02415 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 1979; DB 1; Length 388; 100.0%; Pred. No. 1.1e-160; tive 0; Mismatches 0; Indels 0;
                                                                                       SEQUENCE FROM N.A.
PubMed=12966037; DOI=10.1093/glycob/cwg113;
Martinez-Duncker I., Mollicone R., Candeller J.J., Breton C.,
(Peptide O-fucosyltransferase) (O-FucT-1)
             Name=POFUT1; Synonyms=FUT12;
Pan troglodytes (Chimpanzee)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 100.0
Matches 365; Conservative
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                                                    Mammalia; Euther
NCBI_TaxID=9598;
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CARBOHYD
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EHRPLOKYMVWSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMA 240
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GO; GO:0016757; F:transferase activity, transferring glycosyl. . .; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241 SPOCYGYSRSTAAPLTWTWCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLF
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Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovinae; Bos.
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
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                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
Loriol C., Germot A., Dupuy F., Maftah A.;
Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              44307 MW; 96762AB81A2027AD CRC64;
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25-0CT-2004 (TrEMBLrel. 28, Last sequence update)
25-0CT-2004 (TrEMBLrel. 28, Last annotation update)
Protein-0-fucosyltransferase 1.
                          QTXRE7;
01-OCT-2003 (TrEMBLrel. 25, Created)
01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95.8%; Score 1895; DB 2; 93.4%; Pred. No. 1.8e-153; vative 17; Mismatches 7;
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RESULT 6
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                     "A new superfamily of protein-O-fucosyltransferases, alpha2-fucosyltransferases and alpha6-fucosyltransferases; phylogeny and identification of conserved peptide motifs."; conserved peptide motifs.";
                                                                                                                     Martinez Duncker I., Oriol R., Mollicone R.;
Submitted (UTL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ781503; CAH03714.1;
GO; GO:0016757; Fitransferase activity, transferring glycosyl...
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "A new superfamily of protein-O-fucosyltransferases, alpha2-fucosyltransferases and alpha6-fucosyltransferases: phylogeny identification of conserved peptide motifs."; glycobiology 13:10-5c(1003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-Wistar;
PubMed=12966037; DOI=10.1093/glycob/cwg113;
Martinez-Duncker I., Mollicone R., Candelier J.J., Breton C.
SEQUENCE FROM N.A.

PubMed=12966037; DOI=10.1093/glycob/cwgll3;

Martinez-Duncker I., Mollicone R., Candelier J.J., Breton C.,

Oriol R.,
                                                                                                                                                                                                  Length 391;
                                                                                                                                                                                                 Query Match
94.9%; Score 1878; DB 2; Length 3
Best Local Similarity 92.3%; Pred. No. 5e-152;
Matches 337; Conservative 20; Mismatches 8; Indels
                                                                                                                                                                    Glycosyltransferase; Transferase.
SEQUENCE 391 AA; 44277 MW; 4E047D6BB5CDF7FA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-OCT-2004 (TrEMBLrel. 28, Created)
25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
Protein-O-fucosyltransferase 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              395 AA
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                                                                                                             SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     244 CVGYSRSTAAPLTMTMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGK 303
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EMBL, AJ567917; CAD99201.1; -
GO, GO:0016757; Fitznaferase activity, transferring glycosyl. . .; IEA.
Glycosylrandfranse: Transferase.
NON TER Last 378

SEQUENCE 378 AA; 42842 MW; 1870DEB0C50713F1 CRC64;
                                                                                                                                                                                                                                                                                                                                                       4 GSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPW1EYQHHKPPFTNLHVS 63
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Martinez-Dunker I., Mollicone R., Candelier J.J., Breton C., Oriol
Martinez-Dunker I., Mollicone R., Candelier J.J., Breton C., Oriol
"A new superfamily of protein-O-fucosyltransferases, alpha2-
fucosyltransferases, and alpha6-fucosyltransferases: phylogeny and
identification of conserved peptide motifs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Suina; Suidae; Sus.
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN=Wistar;
Martinez-Duncker I., Oriol R., Mollicone R.;
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL, AJ781499; CAH03711.1; -.
EMBL, AJ781499; CAH03711.1; -.
EMBL, AJ781499; CAH03711.3; -.
EMBL, AJ781499; CH03711.3; -.
EMBL, AJ781499; CH03711.3; -.
SEQUENCE 395 AA; 44983 MW; ZA85521E22ZF38920 CRC64;
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                                                                                                                                                                                                                                                  Ouery Match
93.7%; Score 1854; DB 2; Length 395;
Best Local Similarity 94.2%; Pred. No. 5.7e-150;
Matches 341; Conservative 8; Mismatches 13; Indels
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01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
01-MAR-2004 (TrEMBLrel. 25, Last sequence update)
Protein-O-fucosyltransferase (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         93.6%; Score 1853; DB 2;
93.6%; Pred. No. 6.6e-150;
tive 14; Mismatches 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            378 AA
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Best Local Similarity 93.64
Matches 336; Conservative
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SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRAIN=FVBN-3; TISSUB=Mammary gland;
MEDLINE=22388257; PubMed=12477932; DOI = 10.1073/pnas.242603899;
MISCANI S.F., Zeoberg B.L., Macro T., Mack S.I., Wang J., Hashe F., Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., Attachenko L., Macro T.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., Brownstein M.J., Usdin T.B., Tochhyuki S., Carninci P., Frange C., Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J., Bosak S.A., McEwan P.J., McKernan R.J., Marason R.D., Mullahy S.J., Norley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Glibbs R.A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Metaguez A.C., Grimwood J., Schmutz J., Dickson M.C., Schmutz J., Myers R.M., Rotriguez A.C., Grimwood J., Schmutz J., Marra M.A., Schein J. Skalaka U., Smailus D.E., Metaguez A.C., Grimwood J., Schmutz J., Marra M.A., Schein J. Backes S.J., Marra M.A., Schein J. Skalaka U., Smailus D.E., Metaguez A.C., Grimwood J., Schmutz J., Marra M.A., Schein J. Skalaka U., Smailus D.E., Metaguez A.C., Grimwood S.J.M., Marra M.A., Schein J. Skalaka U., Smailus D.E., Metaguez M.C., Grimwood S.J.M., Marra M.A., Schein J. Skalaka U., Smailus D.E., Metaguez M.C., Grimwood S.J.M., Marra M.A., Schein J. A., Gorden E.D., Dickson M.C., Schein J. Skalaka U., Smailus D.E., Metaguez M.C., Grimwood S.J.M., Marra M.A., Schein J. Jones B. J. Wenterfield W.S., Woodeld S.J.M., Marra M.A., Schein J. Hulykis S. Woodeld S.J.M., Marra M.A., Schein J. J., Woodeld S.J.M., Marra M.A., Schein J. J. Woodeld S.J.M., Marra M.A., Schein J. J. Woodeld J. Schein J. J. Skalaka U., Smailus D.E., Metaguez M.C., Grimwood J., Schein S.D., Schein J. Skalaka U., Smailu
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                                                                                                                                                                                                                                                                                                                                                   EGNPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLE 180
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                                                                                                                                                                         HVSYQKYFKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMK 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               320 KGKVKVVSLKPEVAQIDLYILGQADHFIGNCVSSFTAFVKRERDLGGRLSSFFGMDRPP 378
                                                       20 LPAVSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
                                                                                                                                                                                                                            80 HVSYQKYFKLEPLQVYHRVISLEDFMEKLAPTHWPPERRVAYCFEVAAQRSPDKKTCPMK
MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              O312W2;
O312W2;
28-FEB-2003 (Rel. 41, Last sequence update)
28-CT-2004 (Rel. 45, Last annotation update)
GDP-fucose protein O-fucosyltransferase 1 precursor (EC 2.4.1.221)
(Peptide O-fucosyltransferase)
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Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             393 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        243 QCVGYSRSTAAPLIMIMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKG 302
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90
               -!- FUNCTION: Catalyzes the reaction that attaches fucose through an O-glycosidic linkage to a conserved serine or threonine residue in BGF domains (By similarity).
-!- CATALYTIC ACTIVITY: Transfers an alpha-L-fucosyl residue from GDP-beta-L-fucose to the serine hydroxy group of a protein acceptor.
-!- COFACTOR: Manganese (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31 AGSWDLAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    151 NPFGPFWDQFHVSFNKSELFTGISFSASYKEQWTQRFPAKEHPVLALPGAPAQFPVLEH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         271 QCVGYSRSTATPLTWTMCLPDLKEIQRAVTLWVRALNARSVYIATDSESYVSEIQQLFKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183 RPLQKYMVWSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMASP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KVKVVSLKPEVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPKLR
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                                                                                                                                                                                                                                                                                                                                                           MGD; MGI:2153207; Pofutt.

GO; GO:0030173; C:integral to Golgi membrane; ISS.
GO; GO:0008417; F:fucosyltransferase activity; ISS.
GO; GO:0001525; P:angiogenesis; IMP.
GO; GO:0007599; P:neurogenesis; IMP.
GO; GO:0007399; P:neurogenesis; IMP.
GO; GO:0007499; P:neurogenesis; IMP.
GO; GO:0007499; P:O-linked glycosylation; ISS.
GO; GO:0001756; P:somitogenesis; IMP.
Fucose metabolism; Glycoprotein; Glycosyltransferase; Manganese;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N-linked (GlcNAc. . .) (Potential)
N-linked (GlcNAc. . .) (Potential)
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                                                                                                                                           -!- SIMILARITY: Belongs to the glycosyltransferase 68 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 393;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   393 AA; 44688 MW; D982104E95E5CF3B CRC64;
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2; DB 1;
4.3e-148;
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Best Local Similarity 92.69
Matches 336; Conservative
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æ RESULT OSC8R4

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Best Local Similarity 92.33
Matches 335; Conservative
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STRAIN-CSTBL/61. TISSUE-Retina;
Adachi J., Aizawa K., Akimura T., Arakawa T., Bono H., Carninci P.,
Fukuda S., Furuno M., Hanagaki T., Hara A., Hashizume W.,
Hayashida K., Hayatsu N., Hiramoto K., Hiraoka T., Hirozane T.,
Hayashida K., Ishii Y., Itoh M., Kagawa I., Kasukawa T.,
Katch H., Kawai J., Kojima Y., Rondo S., Konno H., Kovda M., Koya S.,
Kurihara C., Matuyama T., Miyazaki A., Murata M., Nakamura M.,
Nahi K., Nomura K., Numzazaki R., Ohno M., Ohasto N., Okazaki Y.,
Saitoh H., Sakai C., Sakai K., Sakazume N., Sano H.,
Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M.,
Tagawa A., Takahashi F., Takaku-Akaku-Akahira S., Takeda Y., Tanaka T.,
Tomaru A., Toya T., Yamuishi A., Muramatu M., Hayashizaki Y.;
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
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STRAIN=C57BL/6J; TISSUE-Retina;
BIRAIN=C57BL/6J; TISSUE-Retina;
BEDLINE=2049937; PubMed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M., Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.,
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.,
Fromalization and Subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new genes.";
Genome Res. 10:1617-1630(2000).
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STRAIN-CSTOBL/64; TISSUE-Retina;
STRAIN-CSTOBL/64; PISSUE-Retina;
MEDLINES-99279232; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cloning.";
"High-efficiency full-length cDNA cloning.";
                                         QBCBR4;
QBCBR4;
01-NRR-2003 (TrEMBLrel. 23, Last sequence update)
01-NRR-2003 (TrEMBLrel. 25, Last annotation update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus adult retina cDNA, RIKEN full-length enriched library,
clone:A930028F21 product:protein O-fucosyltransferase 1, full insert
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STRAIN-CSTBL/64); TISSUE-Retina;
The FANTOM Consortinin.
The RIKEN Genome Exploration Research Group Phase I & II Team;
the RIKEN Genome Exploration Research Group Phase I & II Team;
"Analysis of the mouse transcriptome based on functional annotation
60,770 full-length colbase";
Nature 420:563-573(2002).
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SEQUENCE FROM N.A.
STRAIN-CS7BL/G4; TISSUE-Retina;
SCHAIN-CS7BL/G4; TISSUE-Retina;
SCHAIN-CS7BL/G4; TISSUE-Retina;
Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P.,
Schibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P.,
Konno H., Akiyama J., Nishi K., Kitsunai T., Tashiro H., Harada A.,
Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A.,
Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K.,
Puliwake S., Inoue K., Tagawa W., Ohara E., Watshiki M.,
Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J.,
Okazaki Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y.;
sequencing pipeline with 384 multicapillary sequencer.",
                                                                                                                                                                                                                                                                                                                                                                   Enkaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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        393 AA
        PRT;
            PRELIMINARY;
                                                                                                                                                                                                                                                                                                     Name=Pofut1;
Mus musculus (Mouse)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   211 RELOXYMVWSDEMVRTGEALISSHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMASP
                                                                                                                                                                                                                                                                                                                                                                                                                                     3 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLHV
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                                                                                                                                                                                                                                                                                                                               Length 393;
EMBL; AK044629; BAC32009.1; -.
MGD; MGI:153207; Pofutl.

CO; GO:0005615; Castracellular space; TAS.

CO; GO:0005615; P:anglogenesis; IMP.

CO; GO:0007507; P:heart development; IMP.

CO; GO:0007219; P:heart development; IMP.

CO; GO:0007219; P:neurogenesis; IMP.

CO; GO:0007219; P:nonttogenesis; IMP.

CO; GO:0007156; P:somitogenesis; IMP.

CO; GO:0001766; P:somitogenesis; IMP.
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84.5%; Score 1672; DB 2; Length 3
Best Local Similarity 81.5%; Pred. No. 2e-134;
Matches 296; Conservative 33; Mismatches 34; Indels
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Submitted (DEC-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ33574; CAD59738.1; -.
Hypothetical protein.
SEQUENCE 380 AA; 43316 MW; 83B53E342511811B CRC64;
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Last annotation update)
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; Pred. No. 7.8e-148;
14; Mismatches 14;
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346
                     327 KGK----SLSFAVPKASEMSL-LLG
          KGKVKVVSLK---PEVAQVDLYILG
                                                                               PRT;
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Matches 261; Conservative
                                                                               PRELIMINARY;
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                                                                                                                                                                                                    FROM N.A.
                                                                                                                                                                                NCBI_TaxID=8364;
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Klein S., Gerh
                                                                                                                                                                                                             TISSUE=Embryo;
          301
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                                                                                                   242
                                                                                                                                                    258 QCVGYDRSTAVPLTMDMCLPDLKEIKRALKVWVKKTVAKSIYIATDSEPYTKEIQQFFQG 317
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 77
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Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AY344581; AAQ02333.1; -.
EMBL; AY344581; F:transferase activity, transferring glycosyl. . .; IEA.
Glycosyltransferase; Transferase.
SEQUENCE 351 AA; 39576 MW; BF830F61A7296F42 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HVSYQKYPKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EGNPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLE
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                                                                                                                                                                                           1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAPAKLLNRTLAVPPWIEYQHHKPPFTNL
                                                                       198 RPLHKYMVWSDEMVKKGEAYIHSLLVRPYVGIHLRIGSDWKNACNMLKDGTAGSHFMASP
                                                                                                                                                                                 303 KVKVVSLKPEVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPKLR
18 AGSWDTAGYLLYCPCMGRFGNQAEHFLGALAFARALNRTLAVPPWIEYRHHRPPYTNLHV
                     63 SYOKYFKLEPLOAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMKEG
                               RPLQKYMVWSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMASP
                                                                                                                                           OCVGYSRSTAAPLTMTMCLPDLKEIQRAVKLMVRSLDAQSVYVATDSESYVPELQQLFKG
                                                            NPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLEEH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                    Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Match 80.1%; Score 1586; DB 2; Length 351; Local Similarity 88.6%; Pred. No. 4e-127; les 288; Conservative 20; Mismatches 9; Indels
                                                                                                                                                                                                                                                                                                                    01-OCT-2003 (TrEMBLrel. 25, Created)
01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Protein O-fucosyltransferase 1b.
                                                                                                                                                                                                                                                                                                 Z
                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9913;
                                                                                                                                                                                                                           DEF 365
                                                                                                                                                                                                                                              DEF 380
                                                                                                                                                                                                                                                                                                                                                             Name=pofut1;
                                                                                                                                                                                                                                                                                                                                                                                                     Bovinae; Bos
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Q7YRE6;
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Matches
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Attached B. Carlon C. Marusian K., Farmer A. R., Rubin G. M., Hong L. Carapleton M. J., Uddin T. B. Toshiyuki S., Carninci P., Prange C. Brownstein M.J., Uddin T. B., Toshiyuki S., Carninci P., Prange C. Carlon B. Ca
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6 WDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLINRTLAVPPWIEYQHHKPPFTNLHVSYQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66 KYPKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMKEGNPF
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                                                                                  25-0cr-2004 (TrEMBLrel. 28, Created)
25-0cr-2004 (TrEMBLrel. 28, Last sequence update)
25-0cr-2004 (TrEMBLrel. 28, Last annotation update)
Hypothetical protein.

Xenopus tropicalis (Western clawed frog) (Silurana tropicalis).
Xenopus tropicalis (Mostern Clawed frog) (Silurana tropicalis).

Xenopus tropicalis (Mostern Clawed frog) (Silurana tropicalis).

Xenopus tropicalis, Anura; Mesobatrachia; Pipoidea; Pipidae;
Xenopodinae; Xenopus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Klein S., Garhard D.S.;
Submitted (SEP-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BC082519; AAH82519.1; -.
Hypothetical protein.
SEQUENCE 380 AA; 43570 MW; 8BB938CE776D5238 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
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Pred. No. 7.2e-119;
48; Mismatches 50;
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380
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65 80 260

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Gaps

152

124

92 64

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153 FGPFWDHIGVDPDRSVLFGGLSFSSYYQPHWIKRFPPKEHPVLALPGAPAQFPVLEEHIG 212
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOKYMVWSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMASPQC 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VGYSRSTAAPLIMIMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKV 304
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                                                                                                                                                                                                                                                                                                                                                                                                5 SWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLHVSY
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
NCBI_TaxID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Xenopus laevis (African clawed frog).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
Xenopodinae; Xenopus.
(VCBI_TaxID=8355;
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                                                                                                                                            EMBL; AJ579536; CAE18459.1; ---
ZFIN; ZDB-GRENE-040303-2; pofcult of CO; GO: 0046922; F: peptide-O-fucosyltransferase activity; IEA.
GO; GO: 0016757; F: transferase activity, transferring glycosyl.
Glycosyltransferase; Transferase activity, transferring glycosyl.
Glycosyltransferase; Transferase, MW; 15BBE06172542E8A CRC64;
                                                                  SEQUENCE FROM N.A.
Marcinez-Duncker I., Mollicone R., Candelier J.J., Breton C.,
                                                                                                                                                                                                                                                            Query Match
74.5%; Score 1474; DB 2; Length 395;
Best Local Similarity 73.9%; Pred. No. 1.8e-117;
Matches 263; Conservative 40; Mismatches 53; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Oriol R.;
Submitted (OCT-2002) to the EMBL/GenBank/DDBJ databases.
EMBL, AJ51445; CAD5583.1; -.
InterPro, IPR000886; ER target_S.
PROSTIE; PS00014; ER TARGET; UNKNOWN_1.
SEQUENCE 380 AA; 43505 WW; C6B960E76DB75293 CRC64;
                                                                                                               Oriol R.;
Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Hypotherical protein pofutl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          73.1%; Score 1447; DB 2; 70.6%; Pred. No. 3.4e-115; tive 50; Mismatches 56;
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Matches 255; Conservative
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           KYPKLEPLOAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAORSPDKKTCPMKEGNPF 125
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                306 VVSLKPEVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPKLRDE 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 306 VVSLKPEVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLOGRPSSFFGMDRPPKLRDE 364
                                                                                                                                                                                                                                                                                                                                                                                                                 Martinez Duncker I., Oriol R., Mollicone R.;
Submitted (UTL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ781498; CAH03710.1;
GO; GO:0016757; F:transferase activity, transferring glycosyl. . .; IEA.
InterPro; IPR000886; ER target S.
PROSITE; PS00014; ER TARGET; UNKNOWN I.
Glycosyltransferase; Transferase.
SEQUENCE 196 AA; 45056 MW; P90504E19507073F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6 WDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLHVSYQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             186 QKYMVWSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMASPQCV
                                                                                 Gaps
                                                                                                                                                                                                                                                                                      Xenopus tropicalis (Western clawed frog) (Silurana tropicalis).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleosfomi,
Amphibia; Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae;
Xenopodinae, Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q7T028 PRELIMINARY; PRT; 395 AA.
Q7T028
Q7T0203 (TrEMBLrel. 25, Created)
01-0CT-2003 (TrEMBLrel. 25, Last sequence update)
01-0CT-2003 (TrEMBLrel. 26, Last amnotation update)
01-MAR-2004 (TrEMBLrel. 26, Last amnotation update)
CDP-fucose protein O-fucosyltransferase 1 (EC 2.4.1.221).
Name-pofutl; Synonyms=futl2;
Name-pofutli, Synonyms=futl2;
Brachydanio rerio (Zebrafish) (Danio rerio).
Eukaryota; Metazoa; Chordata; Craniata; Buteleostomi;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tch 75.3%; Score 1490; DB 2; Length 3 al Similarity 72.7%; Pred. No. 7.6e-119; 261; Conservative 48; Mismatches 50; Indels
                                                                                                                                                                                                                25-OCT-2004 (TrEMBLrel. 28, Created)
25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
Protein-O-fucosyltransferase.
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                                                                                                                                                                                    396
                                                                                                                                                                                  PRELIMINARY;
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Best Local S
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Q7T028
1D Q7T02
AC Q7T02
DT 01-0C
DT 01-0C
DT 01-0G
DT 08-0C
GN Namme=
GN Brach
QC Eukar
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Q6EV71
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                                                                                                                        139 PFGPFWDHFHVDFTQSELFDGITFSAYYKDVWISRFPPSQHPVIALPGAPAQFPVLEEHR 198
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                                                                                                                                                                                                                          244 CVGYSRSTAAPLTMTMCLPDLKBIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGK 303
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                                                                                                      PFGPFWDQFHVSFNKSELFTGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLEEHR
                                              YOKYFKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMKEGN
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Fugu rubripes (Japanese pufferfish) (Takifugu rubripes).
Fugu rubripes (Japanese pufferfish) (Takifugu rubripes).
Buteleostomi;
Actinopterygii, Neopterygii, Teleostei; Buteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes;
Tetradontoidea; Tetraodontidae; Takifugu.
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EMBL; AJG66070; CABLASSIS.1; Extransferras activity, transferring glycosyl InterPro; IPR000886; ER target S.
PROSITE; PS01014; ER TARGET; UKNOWN_I.
Glycosyltransferase; Transferase.
SEQUENCE 384 AA; 43650 MW; 7CAA6ADC90F40032 CRC64;
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GYSRSTAAPLTMTMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVK 305
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AR163452 Sequence
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AR163451 Sequence
BD103188 O-fucosy1
AL832023 Homo sapi
AR375884 Homo sapien
AF375884 Homo sapien
AF375884 Homo sapien
AF375886 Bos tauru
AJ781503 Bos tauru
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AJ567917 Sus scrof
AR163453 Sequence
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AJ535754 Gallus ga AJ720352 Gallus ga AJ724581 Bos tauru BC082519 Xenopus t AJ739536 Danio rer AJ579536 Danio rer AJ57425 Xenopus 1 AJ66070 Fugu rubr AJ719585 Gallus ga BC000582 Homo sapi AK112708 Ciona int AJ71508 Ciona int

AJ831490 Drosophil AY118651 Drosophil AR50333 Sequence CQ590403 Sequence AB093572 Drosophil CQ590402 Sequence AC017347 Drosophil

AC007588 Drosophil AC007852 Drosophil AE003815 Drosophil AJ831491 Bombyx mo

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Wang, Y. and Spellman, M.W.
O-fucosyltransferame
Patent: US 6270897-A 16 07-AUG-2001;
Location/Qualifiers
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-MODEL=frame+ p2n.model -DEV=x1h
-MODEL=frame+ p2n.model -DEV=x1h
-0=/cgn2_1/USPTO_spool_h/USO9774954/runat_2S102005_105432_6389/app_query.fasta_1.917
-0=/cgn2_1/USPTO_spool_h/USO9774954/runat_2S102005_105432_6389/app_query.fasta_1.917
-DEVENTED-EDVENTED-EDVENTED-SUPFIX-rge -MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-DOCALIGN=200 -TRR_SCORE=pct -THR MAX=100 -TALIGN=15 -MODE=LOCAL
-OUTEPAT=ptc -NORM=ext -HEAFSIZE=500 -MINIEN=0 -MAXIEN=200000000
-USER=US09774954_@CGN 1 1_4968_@runat_25102005_105432_6389 -NCPU=6 -ICPU=3
-NO WMAP -LARREGOUERY -NEG SCORES=0 -WAIT -DSPBILOCK=100 -LONGIOG
-DEV_TIMEOUT=120 -WARN TIMEOUT=30 -THRRADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FCAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
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BD103196 O-fucosyl
CQ727777 Sequence
AJ781500 Pan trogl
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                    GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                           - nucleic search, using frame_plus_p2n model
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Database

Š. Result

PAT 17-0CT-2001

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SerleuGluAspPheMetGluLysLeuAlaProThrHisTrpProProGluLysArgVal 100
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D 25-DEC-1997 JP 1998532877

R 31-JAN-1997 US 08/792498,26-NOV-1997 US

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Topology: Linear;
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/organism='Unidentified'
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BD103196.1 GI:22648770
Unidentified
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O-Grocosyltransferase
Patent: JP 2001527389-A 9 25-DEC-2001;
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S Unidentified
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PP 17-DEC-1997 JP 1998532877
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Matches:
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Mismatches:
Indels:
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Kits, such as nucleic acid arrays, comprising a majority of
humanexons or transcripts, for detecting expression and other uses
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Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo. .
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                                                                                                             GAACACAGECCACTACAGAAGTACATGGTATGGTCAGACGAAATGGTGAAGACGGAGAG
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PE Corporation (NY) (US)
Location/Qualifiers
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Score: 1979.00 Matches: 365 Percent Similarity: 100.00\$ Conservative: 0 Best Local Similarity: 100.00\$ Mismatches: 0 Query Match: 100.00\$ Indels: 0 DB: 9	US-09-774-954-2 (1-365) x AJ781500 (1-1167)  Qy 1 MetProAlaGlySerTrpAspProAlaGlyTytLeuLeuTyrCysProCysMetGlyArg 20	70 ATGCCGCGGGGGCTCCGGCGGCTACCTGCTCTACTGCCCCTGCATGGGGCGCCCCCCTGCATGGGGGGCCCCTGCATGGGGGGCGCCGCCGGCGGCGCGGCGCGGGGGGGG	130	laTyrHisArgValile	81	Qy 101 AlaTyrCysPhedluValAlaAlaGlnArgSerProAspLysLysThrCysProMetLys 120	Qy         121 GluGlyAsnProPheGlyProPheTrpAspGlnPheHisValSerPheAsnLySerGlu 140           Db         430 GAAAGGAAACCCTTTGGGCCCATTCTGGAATTCATGTGAGTTTCAACAAGTCGGAG 489	141 LeuPheT         490 CTTTTTA		Oy 181 GluHisArgProLeuGlnLysTyrMetValTrpSerAspGluMetValLysThrGlyGlu 200	Oy 201 AlaGln1leHisAlaHisLeuValArgProTyrValGlylleHisLeuArg1leGlySer 220	Oy 221 ASPTrpLysAsnAlaCysAlaMetLeuLysAspGlyThrAlaGlySerHisPheMetAla 240	Oy         241 SerProGlnCysValGlyTyrSerArgSerThrAlaAlaProLeuThrMetThrMetCys 260           Db         790 TCTCCGCAGTGTGTGGGCTACAGCCGCAGCAGCGCCCCCCTCACGATGACTATGTGC 849	Oy 261 LeuProAspLeuLysGluIleGlnArgAlaValLysLeuTrpValArgSerLeuAspAla 280	Oy 281 GINSerValTyrValAlaThrAspSerGluSerTyrValProGluLeuGlnGlnLeuPhe 300	Qy         301 LysGlyLysValLysValValSerLeuLysProGluValAlaGlnValAspLeuTyrIle         320           Db         970 AAAQGGAAGGTGAAGGTGGACCTGAAGCCTGAAGCTGGCCCAGGTTGACCTGTACATC         1029	
Db 910 CAGTCGGTCTACGTTGCTACTGATTCCGAGAGTTATGTGCCTGAGCTCCAACAGCTCTTC 969  Qy 301 LyeGlyLyeValLyeValValSerLeuLyeProGluValAlaGlnValAspLeuTyrIle 320  Db 970 AAAGGGAAGGTGGTGAGCCTGAAGGTGGCCCAAGGTGGCCCAGGTCGTCGTACATC 1029	Qy 321 LeuGlyGlnAlaAspHisPheIleGlyAsnCysValSerSerPheThrAlaPheValLys 340	Qy         341 ArgGluhrgAspLeuGlnGlyArgProSerSerPhePheGlyMetAspArgProFroLys         360           1090 CGGGAGCGGGACCTCCAGGGAGGCGGTCTTCTTTCTTCGGCATGGACAGGCCCCTAAG         1149	Qy 361 LeuArgAspGluPhe 365 	RESULT 4 AJ781500 LOCUS AJ781500 1167 bp mRNA linear PRI 07-JUL-2004 DEFINITION Pan troglodytes mRNA for protein-O-fucosyltransferase 1 (fut12		ORGANISM Pan troglodytes Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Pan. REFERENCE	AUTHORS Martinez-Duncker, I., Mollicone, R., Candelier, J.J., Breton, C. and Oriol, R. TITLE A new superfamily of protein-O-fucosyltransferases,	phylogeny and identification of conserved peptide motifs JOURNAL Glycobiology 13 (12), 1C-5C (2003) PUBMED 12966037	AUTHORS Martinez-Duncker, I., Oriol, R. and Mollicone, R. TITLE Phylogeny of fucosyltransferases JOURNAL Unpublished REFERENCE 3 (bases 1 to 1167)	AUTHORS Oriol, R. TITLE Direct Submission JOURNAL Submission Valilant-Couturier, 94807, FRANCE	FEATURES Location/Qualifiers 1.1167 source 1.1167 /organism="Pan troglodytes" /mol type="mRNA"	/db_xref="taxon:9598" 1 .1167   cps   1 .1167   cps   1 .1167		/product="protein-O-fucosyltransferase 1" /protein id="CAH0312.1" /db_xref="G1:50057070" /translation="WGAAAWARPLSVSFLLLILPLPGMPAGSWDPAGYLLYCPCMGRF	GNQADHPLGSLAFAKLLANFTLAVPPWIEYQHHKPPFTNLHVSYQKYFKLEPLQAYHRV ISLEDFWEKLAPTHWPPERRVAYCTEVAAQARSPDKKTCPKREGOFFGFPWOGFHVSFN KSELFTGISFSASYREQNSQRESPEREHVALPGAPAQFPVLEHRPLQKYMYMSDEM VKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFNASPQCVGYSRSTAA	PLTMTMCLPDIKEIQRAVXLWYRSLDAQSYYVATDSESYYPELQQLFKGKYKVSLKP EVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPKLRDEF" ORIGIN	Alignment Scores: Pred. No.: 9.63e-175 Length: 1167

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	RESULT 5 AR163452 LOCUS LOCUS LOCUS AR163452 LOCUS LOCUS AR163452 AR163452 AR163452 VERSION AR163452.1 G1:16234057 CORANISM Unclassified. Unclassified. AUTHORS AU	1.11e-174   Length:   1300	0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0

	ט שניז מניז	Oy 361 LeukrgAspGluPhe 365 	RESULT 7   AR163451	SOURCE Unknown. SOURCE ORGANISM Unknown. Unclassified. REFERENCE 1 (bases 1 to 1514) AUTHORS Wang, Y. and Spellman, M.W.	O-fucosyl Patent: U		Alignment Scores: 1.35e-174 Length: 1514 Pred. No.: 1979.00 Matches: 365 Score: 1979.00 Matches: 365 Percent Similarity: 100.00% Conservative: 0	100.00% intelled a 100.00% and	(1-303) A ALLOS 131 et ProAlaGlySerTrpAsp 	2) PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsnArg [L	41 ThrLeualaValProProTrplleGluTyrGlnHisHisLysProProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisLysProProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisLysProProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisLysProProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisHisLysProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisHisLysProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisHisLysProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisHisLysProProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisHisLysProProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisHisLysProProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisHisLysProProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisHisLysProProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisHisLysProProPheThrAsnLeu  4. ThrLeualaValProProTrplleGluTyrGlnHisHisLysProProProPheThrAsnLeualaValProProProPheThrAsnLeualaValProProProProProProProProProProProProProP	61 HisValSerTyrGlnLysTyrPheLysLeuGluProLeuGlnAlaTyrHisArgVallle 61 HisValSerTyrGlnLysTyrPheLysLeuGluProLeuGlnAlaTyrHisArgVallle 62 ChromenoratorAscascascascascascascascascascascascascas	81 SerLeuGluAspPheMetGluLysLeuAlaProThrHisTrpProProGluLysAxgVal	101 AlaTyrCysPheGluValAlaAlaGlnArgSerProAspLysLysThrCysProMetLys	Db 301 GCATACTGCTTTGAGGTGGCAGCGAAGCCCAGATAAGAAGACGTGCCCCATGAAG 360
<pre>source 11300 /organism="unidentified" /mol_type="genomic DNA" /db_xref="taxon:32644"</pre>	Alignment Scores: 1.11e-174 Length: 1300 Score: 1979.00 Matches: 365 Scoret Similarity: 100.00 Mismatches: 0 Best Local Similarity: 100.00 Mismatches: 0 Cuery Match: 6 Cuery Match: 6 Cuery Match: 0 Cue	1 MetProAlaGlySerTrpAspPr 	21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLySL	Db 256 ACCTTGGCTGCTCCTTGGATTGATTGATTCACACACACTCTTTTCACCACCACCTC 315  Qy 61 HisValSerTyrGlnLysTyrPheLysLeuGluProLeuGlnAlaTyrHisArgVallle 80  Db 316 CATGGCTGCCACAAGATACTTCAACTGAAGACCCCTCCAAGGCTTACCATCGAGGTATC 375	SerLeuG         AGCTTGG	Qy 101 AlaTyrCysPheGluValAlaalaGlnArgSerProAspLysLysThrCysProMetLys 120	Qy 121 GluGlyAsnProPheGlyProPheTrpAspGlnPheHisValSerPheAsnLysSerGlu 140	Qy 141 LeuPheThrGlyIleSerPheSerAlaSerTyrArgGluGlnTrpSerGlnArgPheSer 160	Qy 161 ProLysGluHisProValLeuAlaLeuProGlyAlaProAlaGlnPheProValLeuGlu 180	Qy 181 GluHisArgProLeuGlnLysTyrMetValTrpSerAspGluMetValLysThrGlyGlu 200	Qy 201 AlaGlnIleHisAlaHisLeuValArgProTyrValGlyIleHisLeuArgIleGlySer 220	Qy       221 AspTrpLysAsnAlaCysAlaMetLeuLysAspGlyThrAlaGlySerHisPheMetAla 240         Db       796 GACTGGAAGAACACGCCTGTGCCTGAAGGACGGACTGCAGGCTCCAGCTTCATGGCC 855	Qy 241 SerProGlnCysValGlyTyrSerArgSerThrAlaalaProLeuThrMetThrMetCys 260	Qy         261 LeuProAspLeuLysGluIleGlnArgAlaYalLysLeuTrpValArgSerLeuAspAla 280           Db         916 CTGCCTGACCTGAAGGAGATCCAGAGGGCTCTGAAGCTCTGGGTGAGGTCGCTGGATGCC 975	281 GlnSerValTyrValAlaThrAspSerGluSerTyrValProGluLeuGlnGlnLeuPhe 30

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Matches:
C12N15/54,C12N9/10,C07K16/40
Strandedness: Single;
Topology: Linear;
O-fucosyltransferase
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/mol_type="genomic DNA"
/db_xref="taxon:32644"
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17-DEC-1997 JP 1998532877
31-JAN-1997 US 08/792498,26-NOV-1997 US WANG,MICHAEL W SPELLMAN
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1 (bases 1 to 1514)
Wang, Y. and Spellman, M.W.
O-fucosyltransferase
Patent: JP 2001527389-A 1 25-DEC-2001;
GENENTECH INC
OS Unidentified
PN JP 2001527389-A/1
PP 25-DEC-2001
PF 17-DEC-1997 JP 1998532877
PR 31-JAN-1997 US 08/72498, 26-NOV-18
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                                                                                                                  HisValSerTyrGlnLysTyrPheLysLeuGluProLeuGlnAlaTyrHisArgVallle
                                                                                                                          231 CATGTGTCCTACCAGAAGTACTTCAAGCTGGAGCCCCTCCAGGCTTACCATCGGGTCATC
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                                                        21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsnArg
                                                                 111 TTTGGGAACCAGGCCGATCACTTCTTGGGCTCTCTGGCATTTGCAAGCTGCTAAACCGT
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AL832023.1 GI:21732563
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                                   840
                                                          281 GlnSerValTyrValAlaThrAspSerGluSerTyrValProGluLeuGlnGlnLeuPhe 300
                                                                                                                                                                                                                                                                                                                                                                                                                                            /tissue_type="human skeletal muscle"
/clone_lib=#451 (synonym: hlccl). Vector pSport1; host
DH10B; sites NotI + SalI"
/dey stage="adult"
                     LeuProAspLeuLysGluIleGlnArgAlaValLysLeuTrpValArgSerLeuAspAla
TCTCCGCAGTGTGTGGGGCTACAGCCGCAGCACACACCCCCCCTCACGATGACTATGTGC
                               Length:
Matches:
Conservative:
Mismatches:
Indels:
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|mol_type="mRNA"
|db_xref="RZPD:DKF2451J114"
|db_xref="taxon:9606"
|clone="DKFZp451J114"
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Matches:
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QKYFKLEPLQAYHRYISLEDFWEKLAPTHWPPEKRYAYCFEVAAQREDFWKTCOPWEG
PRPEDFWDGFHVSFNKSELFTGISFSSASYREQWSQRFSPKEHPVLALPGAPAQFPVLE
EHRPLQKYMWSDEWVTGAQIHAHLVPYGTHHRIGSDWKNACAMLKDGTAGSH
MASPQCYGYSRSTAPATITMYMCLPDLKEIQRAVKLWYRSLDAQSVYVATDSESYVPEL
QQLFKGKVKVVSLKPEVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRPSSFFG
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/db xref="GI:20521838"
/translation="PPRLCAAAGSGSRADMGAAWARPLSVSFLLLLLPLPGMPAGSW
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Nagase, T., Seki, N., Ishikawa, K., Tanaka, A. and Nomura, N.

Prediction of the coding sequences of unidentified human genes. V.

The coding sequences of 40 new genes (KIRA0161-KIRA0200) deduced by analysis of cDNA clones from human cell line KG-1

DNA Res. 3 (1), 17-24 (1996)

Feb. 9.9 | 1996
1071 CGGGAGCGGGACCTCCAGGGGGGCCGTCTTTCTTCGGCATGGACAGGCCCCTAAG 1130
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chiang, P.W., Wang, S., Smithivas, P., Song, W.J., Ramamoorthy, S., Hillman, J., Puett, S., Van Keuren, M.L., Crombez, E., Kumar, A., Glover, T.W., Miller, D.E., Tsai, C.H., Blackburn, C.C., Chen, X.N., Sun, Z., Cheng, J.F., Korenberg, J.R. and Kurnit, D.M. Identification and analysis of the human and murine putative chromatin structure regulator SupreH and Supteh Genomics 34 (3), 328-333 (1996)
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/cell_type="myeloblast"
/tissue type="brain"
/clone_lib="pBluescriptii SK plus"
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/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="ha0256781"
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/gene="KIAA0180"
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                                                                                                                                                              LeuPheThrGly1leSerPheSerAlaSerTyrArgGluGlnTrpSerGlnArgPheSer
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Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                US-09-774-954-2 (1-365) x AF375884 (1-5249)
 6.8e-174
1979.00
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Query Match:
DB:
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//map="between PLAGL2 and KIF3B"
//issue_type="heart"
1. .5249
//gene="poFUT1"
//gene="poFUT1"
//function="catalyzes transfer of fucose from GDP-fucose to serine or threonine on epidermal growth factor-like
                                                                     1135
                                                                                           Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammaliai; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 5249)
Wang, Y., Shao, L., Shi, S., Harris, R.J., Spellman, M.W., Stanley, P. Wang, Y., Shao, L., Shi, S., Harris, R.J., Spellman, M.W., Stanley, P. Modfituanger, R.S.
Modfitcation of Equidermal growth factor-like repeats with O-fucose. Molecular cloning and expression of a novel GDP-fucose protein O-fucosyltransferase
J. Biol. Chem. 276 (43), 40338-40345 (2001)
                1016 AAAGGGAAGGTGAAGGTGGAGGTGAGCCTGAAGGTGGCCCCAGGTCGACTGTACATC 1075
                                                                                                                                                                                                           AF375884 13-OCT-2001
Homo sapiens protein o-fucosyltransferase (POFUT1) mRNA, complete
                                               340
   301 LysGlyLysValLysValValSerLeuLysProGluValAlaGlnValAspLeuTyrIle 320
                                                                                                                                                                                                                                                                                                                                                                                                                           Shi, S., Stenlary, P., Wang, Y., Shao, L., Harris, R.J., Spellman, M.W. Shi, S., Stenlary, P., Wang, Y., Shao, L., Harris, R.J., Spellman, M.W. Direct Submission

Bubmitted (OZ-MAY-201) Cell Biology, Albert Einstein College of Submitted (OZ-MAY-201) Cell Biology, Albert Einstein College of Medicine, 1300 Morris Park Ave., New York, NY 10461, USA

Location/Qualifiers

/ organism="Homo sapiens"
// organism="Homo sapiens"
// organism="Homo sapiens"
// organism="Laxon:9606"
// chromosome="20"
                                              AF375884
AF375884.1 GI:15825113
                                                                                                                                                       361 LeuArgAspGluPhe 365
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                                                                                                                                                                                                                                                                                                                                             SerProGlnCysValGlyTyrSerArgSerThrAlaAlaProLeuThrMetThrMetCys
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GAAGGAAACCCCTTTGGCCCATTCTGGGATCAGTTTCATGTGAGTTTCAACAAGTAGAA
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                                                               AlaGlnileHisAlaHisLeuValArgProTyrValGlyIleHisLeuArg1leGlySer
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JP 2001527389-A/3
25-DEC-1001
17-DEC-1997 JP 1998532877
31-JAN-1997 US 08/792498,26-NOV-1997 US
WANG,MICHAEL W SPELLMAN
C12N15/54,C12N9/10,C07K16/40
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Patent: JP 2001527389-A 3 25-DEC-2001;
GENENTECH INC
OS Unidentified
PN 4D 2001527389-A/3
PD 25-DEC-2001
PF 17-DEC-1997 JP 1998532877
PR 31-ANA-1997 US 08/792498,26-NOV-YANG WANG MCCHAREL W SPELLMAN
PC C12N15/54,C12N9/10,C07K16/40
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JP 2001527389-A/3.
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Wang, Y. and Spellman, M.W.
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O-fucosyltransferase.
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Dugas,M., Elis,R., Brors,B. and Mergenthaler,S.
Novel genetic markers for leukemias
Novel genetic markers for leukemias
10 Patent: WO 03039443-A 2310 15-WAY-2003;
Deutsches Krebsforschungszentrum (DE);
Ludwig-Maximilian-Universitaet Muenchen (DE); Haferlach, Torsten,
PD Dr. Dr. (DE); Schoch, Claudia (DE); Kern, Wolfgang (DE)
Location/Qualifiers
1 . 5266
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                       1079 CTCGGCCAAGCCGACCACTTATTGGCAACTGTGTCTCCTTCACTGCCTTTGTGAAG 1138
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Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
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       LeuGlyGlnAlaAspHisPheIleGlyAsnCysValSerSerPheThrAlaPheValLys
                                                                341 ArgGluArgAspLeuGlnGlyArgProSerSerPhePheGlyMetAspArgProProLys
                                                                                1139 CGGGAGCGGGACCCCCAGGGGAGGCCGTCTTCTTTCTTCGGCATGGACAGGCCCCTAAG
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/note="potut1"
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/porden_clerate=1
/porden_c
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Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;

Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,

Bovinae, Bos.

Loriol,C., Germot,A., Dupuy,F. and Maftah,A.

Genomic organization and expression profile of O-fucosyltransferase

genes, poful and pofut2, in Bos taurus

Upublished

2 (Dases 1 to 1176)
                                                                                                                                                                                                                                                                                                                                                                                             5255
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AY344580 1176 bp mRNA linear MAM 03-AUG-2003
Bos taurus protein O-fucosyltransferase 1a (pofutl) mRNA, complete
                                                                                                                                              300
                                                                                                                                                                                                                                            301 LysGlyLysValLysValValSerLeuLysProGluValAlaGlnValAspLeuTyrIle 320
                                                                                                                                                                                                                                                                                                                                                                                                                                             341 ArgGluArgAspLeuGlnGlyArgProSerSerPhePheGlyMetAspArgProProLys 360
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Submitted (17-JUL-2003) EA 3176 Glycobiologie et Biotechnologie,
Faculte des Sciences et Techniques, 123, Avenue A. Thomas, Limog
                                                                                                                                                                                                                                                                                                                                            LeuGlyGlnAlaAspHisPheIleGlyAsnCysValSerSerPheThrAlaPheValLys
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                                                                            LeuProAspLeuLysGluIleGlnArgAlaValLysLeuTrpValArgSerLeuAspAla
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AY344580.1 GI:33303529
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                            Location/Qualifiers

    .11284
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Strandedness: Single,
Topology: Linear,
O-fucosyltransferase
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MAM 07-JUL-2004 (fut12 gene).

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/gene-plantadds fucose to Ser or Thr"
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                                                                      1099 CGGGAACGGGACCTCCATGGGAGACCATCCTCTTTGGCATGGACAGGCCCCCTCAG 1158
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Mammalia, Butheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                       LeuGlyGlnAlaAspHisPheIleGlyAsnCysValSerSerPheThrAlaPheValLys
                                                          ArgGluargAspLeuGlnGlyArgProSerSerPhePheGlyMetAspArgProProLys
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A new superfamily of protein-O-fucosyltransferases, alpha2-fucosyltransferases, and alpha6-fucosyltransferases: phylogeny and identification of conserved peptide motifs (31ycobiology 13 (12), 1C-5C (2003)
                                                                                                                                                                                                                                             fut12 gene; pofut1 gene; protein-0-fucosyltransferase
Bos taurus (cow)
Bos taurus
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Submitted (06-7012-2004) Oriol R.,
Vaillant-Couturier, 94807, FRANCE
Location/Qualifiers
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            6.57e-167
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93.42%
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Best Local Similarity:
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                                                        ThrieuAlaValProProTrpIleGluTyrGlnHisHisHisProProPheThrAsnLeu
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       US-09-774-954-2 (1-365) x AJ781503 (1-1176)
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1159 CTGCGGGATGAATTC 1173
LeuArgAspGluPhe 365
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Search completed: October 26, 2005, 12:55:24 Job time : 8300.58 secs

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APPLICATION NUMBER: 08/792,498
FILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
NAME: SYODOGA, CTRA'G G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 169, App
Sequence 17, Appl
Sequence 17, Appl
Sequence 18162, A
Sequence 36, Appl
Sequence 9, Appli
Sequence 3, Appli
Sequence 26, Appl
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                                                                                                                                                                          ; Search time 214.353 Seconds (without alignments) 710.936 Million cell updates/sec
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                                                                                                                                                                                                                                                                                               US-09-774-954-2
1979
1 MPAGSWDPAGYLLYCPCMGR......QGRPSSFFGMDRPPKLRDEF 365
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1. (cgn2 6 ptodata/2/pubpaa/US07 PUBCOMB.ppp:*

2. (cgn2 6 ptodata/2/pubpaa/US07 NEW PUB.ppp:*

3. (cgn2 6 ptodata/2/pubpaa/US06 NEW PUB.ppp:*

3. (cgn2 6 ptodata/2/pubpaa/US06 NEW PUB.ppp:*

4. (cgn2 6 ptodata/2/pubpaa/US07 NEW PUB.ppp:*

5. (cgn2 6 ptodata/2/pubpaa/US08 NEW PUB.ppp:*

6. (cgn2 6 ptodata/2/pubpaa/US08 NEW PUB.ppp:*

7. (cgn2 6 ptodata/2/pubpaa/US08 PUBCOMB.ppp:*

8. (cgn2 6 ptodata/2/pubpaa/US09 PUBCOMB.ppp:*

10. (cgn2 6 ptodata/2/pubpaa/US09 PUBCOMB.ppp:*

11. (cgn2 6 ptodata/2/pubpaa/US09 NEW PUB.ppp:*

12. (cgn2 6 ptodata/2/pubpaa/US09 NEW PUB.ppp:*

13. (cgn2 6 ptodata/2/pubpaa/US09 NEW PUB.ppp:*

14. (cgn2 6 ptodata/2/pubpaa/US108 PUBCOMB.ppp:*

15. (cgn2 6 ptodata/2/pubpaa/US108 PUBCOMB.ppp:*

16. (cgn2 6 ptodata/2/pubpaa/US108 PUBCOMB.ppp:*

17. (cgn2 6 ptodata/2/pubpaa/US108 PUBCOMB.ppp:*

18. (cgn2 6 ptodata/2/pubpaa/US108 PUBCOMB.ppp:*

19. (cgn2 6 ptodata/2/pubpaa/US108 PUBCOMB.ppp:*

10. (cgn2 6 ptodata/2/pubpaa/US108 PUB.ppp:*

11. (cgn2 6 ptodata/2/pubpaa/US108 PUBCOMB.ppp:*

12. (cgn2 6 ptodata/2/pubpaa/US10 NEW PUB.ppp:*

12. (cgn2 6 ptodata/2/pubpaa/US10 NEW PUB.ppp:*
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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US-10-301-822-169 C
US-09-774-954-6 C
US-09-774-954-17 · US-11-097-143-18162
US-09-833-245-366
US-09-774-954-9
US-09-774-954-9
US-09-774-954-9
US-10-774-954-9
US-10-774-954-9
US-10-774-954-9
US-10-774-954-9
US-10-774-954-9
US-10-774-954-9
US-10-774-954-9
US-11-097-143-36192
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                        OM protein - protein search, using sw model
                                                                                                                                                                                   October 25, 2005, 15:22:39
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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Perfect score:
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164.5
164.5
159.5
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240

300

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COMPUTER READABLE PORM:

MEDIUM TYPE: 3.5 inch 1.44 Mb Eloppy disk COMPUTER READABLE PORM:

MEDIUM TYPE: 3.5 inch 1.44 Mb Eloppy disk COMPUTER: 1BM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genentech)
APPLICATION UNDARE: US/09/774,954
FILING DATE: 30-Jan-2001
FILING DATE: 30-Jan-2001
FILING DATE: 20-MX-1997
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
ATORNEY/AGENT INFORMATION:
NAME: SYOBOGA, CTAİG G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: 19,044
REFERENCE/DOCKET NUMBER: 19,044
TELEROMAUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 6, Application US/09774954
Sequence 6, Application No. US20040241645A1
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-PLOCOSYLKANSFERSE
CORRESPONDENCE ADRESS:
ADRESSE: Genentech, Inc.
STREET: 1 DNA WAY
CITY: South An Francisco
STATE: Galifornia
, ORGANISM: Homo Sapiens
US-10-301-822-169
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; Sequence 169, Application US/10301822
; Publication No. US20030148410A1
; GENERAL INFORMATION:
    APPLICANT: Millennium Pharmaccuticals, Inc.
    APPLICANT: Guillemete, Tracy L.
    APPLICANT: Schlegel, Robert R.
    APPLICANT: Schlegel, Robert R.
    APPLICANT: Monahan, John E.
    APPLICANT: Monahan, John E.
    APPLICANT: Monahan, John E.
    APPLICANT: Monahan, John E.
    APPLICANT: MONGL GENES, COMPOSITIONS, KITS, AND ITILE OF INVENTION: NOVEL GENES, COMPOSITION, ASSESSMENT, FILE OF INVENTION NUMBER: US 60/330,971
    PRIOR PELLING DATE: 2002-11-21
    PRIOR PELLING DATE: 2002-11-21
    PRIOR PELLING DATE: 2002-11-21
    PRIOR PELLING DATE: 2002-03-05
    PRIOR PELLING DATE: 2002-03-05
    PRIOR PELLING DATE: 2002-03-05
    PRIOR PELLING DATE: 2002-03-05
    NUMBER OF SEC ID NOS: 228
    SOFTWARE: FASESEQ for Windows Version 4.0
    LENGTH: 388
    TYPE: PRI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SPQCVGYSRSTAAPLIMIMCLPDLKEIQRAVKLWVRSLDAQSVXVATDSESYVPELQQLF 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KGKVKVVSLKPEVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPK 360
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 EGNPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLE
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                                                                                                                                                                                                                                          Length 365;
                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                    Query Match
100.0%; Score 1979; DB 11;
Best Local Similarity 100.0%; Pred. No. 1.1e-195;
Matches 365; Conservative 0; Mismatches 0;
                                                                                                                       TOPOLOGY: Linear SEQ ID NO: 2: US-09-774-954-2
                       TELEFAX: 650/952-9881

INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 365 amino acids
TYPE: Amino Acid
       TELEPHONE: 650/225-1489
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84 HVSYQKYFKLEPLQATHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMK 143
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                                                                                                                                                                                                                                                                                                                                                                                                         264 SPQCVGYSRSTAAPLIMIMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESVVPELQQLF 323
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241 SPOCVGYSRSTAAPLINTMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLF
                                                                                                                           1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
Query Match
100.0%; Score 1979; DB 14; Length 388;
Best Local Similarity 100.0%; Pred. No. 1.2e-195;
Matches 365; Conservative 0; Mismatches 0; Indels 0;
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9

Gaps

262

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GENERALI INCORMATION:

APPLICANT: Venter, J. Craig
APPLICANT: et al.

TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLEIC ACID
TITLE OF INVENTION: DETECTING EXPRESSION OF 10,000 OR MORE
TITLE OF INVENTION: DESCOPHILA GENES.

TITLE OF INVENTION: DROSOPHILA GENES.

TITLE OF INVENTION: DROSOPHILA GENES.

TITLE OF INVENTION: DROSOPHILA GENES.

CURRENT APPLICATION NUMBER: (0/15/1,832
PRIOR APPLICATION NUMBER: (0/160,191
PRIOR FILING DATE: 1999-10-05
PRIOR FILING DATE: 1999-10-28
PRIOR FILING DATE: 1999-10-28
PRIOR FILING DATE: 1999-11-12
PRIOR FILING DATE: 1999-11-28
PRIOR FILING DATE: 1999-11-28
PRIOR FILING DATE: 2000-01-12
PRIOR FILING DATE: 2000-01-2
PRIOR FILING DATE: 2000-03-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 TGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLEEHRPLQKYMVWSDEMVKTGEAQ 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 EDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMKEGNPFGPFWDQFHVSFNKSELF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 IHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFWASPQCVGYSRSTAAPLTMTMCLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPEVAQVDLYILG
                                                                                                                                                                                                                                                                                                                                                                                  1 NQADHFLGSLAFAKLINRTLAVPPWIEYQHHKPPFTNLHVSYQKYFKLEPLQAYHRVISL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   143 TGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLEEHRPLQKYMVWSDEMVKTGEAQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     83 EDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMKEGNPFGPFWDQFHVSFNKSELF
                                                                                                                                                                                                                                                                                                                                                      23 NOADHFLGSLAFAKLLNRTLAVPPWIEYOHHKPPFTNLHVSYOKYFKLEPLQAYHRVISL
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                                                                                                                                                                                                                                                        Query Match 93.2%; Score 1844; DB 11; Best Local Similarity 100.0%; Pred. No. 9.6e-182; Matches 343; Conservative 0; Mismatches 0;
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 18162
LENGTH: 402
                                                                                                                                                              TOPOLOGY: Linear
SEQUENCE DESCRIPTION: SEQ ID NO: 17:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 18162, Application US/11097143 Publication No. US20050208558A1 GENERAL INFORMATION:
TELECOMMUNICATION INFORMATION:
                        TELEPHONE: 650/225-1489
TELEPAX: 650/952-9881
INFORMATION FOR SEC ID NO: 17:
SEQUENCE CHARACTERISTICS:
                                                                                                                    LENGTH: 343 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-11-097-143-18162
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                                                                                                                                                                                                                                                                                                                                                                                       93 HVSYQKYFKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMK 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                            EGNPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLE 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     153 EGNPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLE 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 EHRPLOKYMVWSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFWA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 213 EHRPLQKYMVWSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMA 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 SPQCVGYSRSTAAPLTWTMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLF 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 KGKVKVVSLKPEVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPK 360
                                                                                                                                                                                                                                                                                                               92
                                                                                                                                                                                                                                                                                        33 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAPAKLLNRTLAVPPWIEYQHHKPPFTNL
                                                                                                                                                                                                                                                               1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
                                                                                                                                                                                                                     Gaps
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0
                                                                                                                                                              Query Match

100.0%; Score 1979; DB 11; Length 397;

Best Local Similarity 100.0%; Pred. No. 1.3e-195;

Matches 365; Conservative 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:

MEDIUM TYRE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IEM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Winbatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: 08/792,498
FILING DATE: 31-JAN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 17, Application US/09774954
; Publication No. US20040241645A1
GENERAL INPORMATION:
GENERAL INPORMATION:
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
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NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1041P1
         361 LRDEF 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  393 LRDEF 397
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US-09-774-954-17
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LENGIH: 474 amino acids
TYPE: Amino Acid
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INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
             Query Match 40.9%;
Best Local Similarity 96.9%;
Matches 155; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                    RESULT 7
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LOCATION: Xaa equals any of the naturally occurring L-amino acids
NAME/KEY: SITE
LOCATION: (4)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
NAME/KEY: SITE
LOCATION: (5)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
NAME/KEY: SITE
OCCURRING: (148)
US-09-833-245-366
                                                                                                                         6
                                                                                                                                                                                                                                                                                     122 GNPFGPFWDOFHVSFNKSELFTGISFSASYREQ---WSORFSPKEHPVLALPGAPAOFPV 178
                                                                                                                                                                                                                                                                                                                                                                          206 QLENCKLQRYLQWSQRYREASKDFIREQLPRGAFLGIHLRNGIDWVRACEHVKD---SQH 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                322 HMIGELNTALSRAGISVHKLPEDDPYLDLAILGQSNHFIGNCISSYSAFEKRERDVHGFP 381
                                                                                                                                                                                                                                                                                                                                                                                                                               179 LEEHRPLOKYMVWSDEMVKTGEAQIHAHLVR-PYVGIHLRIGSDWKNACAMLKDGTAGSH 237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   238 FMASPOCVGYSRSTAAPLTMTMCLPDLKEIQRAVKLWVRSL-----DAQSVYVATDSE 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              263 LFASPQCLGYKNERGA-LYPELCMPSKEAIIRQLKRTIKNVRQTQPDNEIKSVFVASDSN 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          291 SYVPELQ-QLFKGKVKVVSLKPEVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRP 349
                                                                                                                                                                                                                                                     67 YFKLEPLOAYHRVISLEDFMEKLAPTHWPPEKRVAYCFE----VAAQRSPDKKTCPMKE 121
                                                                                                                                                                      99
                                                                                                                                                                                           28 DPNGYLTYCPCMGRFGNQADHFLGSLAFAKALNRTLILPPWVEYR--RGELRSRQVPFNT 85
                                                                                                                                                                   7 DPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYOHHKPPFTNLHVSYQK
                                                                            Query Match
42.0%; Score 831; DB 20; Length 402;
Best Local Similarity 44.7%; Pred. No. 9e-77;
Matches 167; Conservative 62; Mismatches 119; Indels 26; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-833-245-366
US-09-833-245-366
Sequence 366, Application US/09833245
Feducation No. US20040010134A1
GENERAL INFORMATION:
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: FFS46PCT
CURRENT APPLICATION NUMBER: US/09/833,245
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: 60/229, 358
PRIOR FILING DATE: 2000-04-12
PRIOR FILING DATE: 2000-04-15
FRIOR FILING DATE: 2000-04-15
FRIOR FILING DATE: 2000-04-15
SEQ ID NOS: 2267
SEQ ID NOS: 2267
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ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: SITE
LOCATION: (2)
; TYPE: PRT
; ORGANISM: DROSOPHILA
US-11-097-143-18162
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 206 HLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMASPQCVGYSRSTAAPLTMTMCLPDLK 265
                                                                                                                                                                                266 EIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPEVAQVDLYILGQAD 325
                                                                                                                                                                                                         66 BIQRAVKLWYRSLDAQSVYVATDSSSXVPELQQLFKGKVKVVSLKPEVAQVDLYILGQAD 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19 GRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLHVSYQKYFKLEPLQAYHR
                                                                                                                6 HFARTYPGIHLRIGSDWKNACAMLKDGTAGSHFMASPQCVGYSRSTAAPLTMTMCLPDLK
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Score 809; DB 11; Length 165; Pred. No. 4.7e-75; 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: 10.50A

COMPUTER: READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
CLASSITION NUMBER: US/09/774,954
APPLICATION NUMBER: US/08/978,741
APPLICATION NUMBER: US/08/978,741
APPLICATION NUMBER: 08/792,498
FILING DATE: 26-NOV-1997
ATTORNEY/AGENT INPORMATION:
NAME: SVODOGA CTAIG G
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 19,041P1
TELECOMMUNICATION INPORMATION:
TELEBENDUM: 650/225-1489
                                                                                                                                                                                                                                                                     326 HFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPKLRDEF 365
                                                                                                                                                                                                                                                                                                      126 HFIGNCVSSFTAFVKRERDLQGXPSSFFGMDRPPKLRDEF 165
                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: Linear
SEQUENCE DESCRIPTION: SEQ ID NO: 8:
US-09-774-954-8
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US-09-774-954-3
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APPLICANT:
APPLICANT:
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                             276 DEYFGDIPGGFDLNOMGSRKKWLEKFPSEETYPVLAFSSAPAPFPSKGKVWSIQKYLRWSS 335
                                                                                                                                                                                                       194 EMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMASPQCVGYSRSTAA 253
                                                                                                                                                                         254 PLIMIMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPEV 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 60
139 SELFTGI -- SFSASY -- - REQWSQRFSPKEHPVLALPGAPAQFPVLEEHRPLQKYMVWSD 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
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                                                                                                                                                                                                                                                             314 AQVDLYILGOADHFIGNCVSSFTAFVKRERDLQG---RPSSFFGM 355
                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genentech) CURRENT APPLICATION DATA: APPLICATION NUMBER: US/09/774,954 FILING DATE: 30-Jan-2001 CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                            Second Sec
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PRILING DATE: 26-NOV-1997

RPILING DATE: 31-0AN-1997

ATTORNEY/AGENT INFORMATION:
NAME: SVOAGA, CASAG G.

RAFSTRATION NUMBER: 39,044

REFERENCE/DOCKET NUMBER: 39,044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: Linear
SEQUENCE DESCRIPTION: SEQ ID NO: 9:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: South San Francisco
STATE: California
COUNTRY: USA
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INFORMATION FOR SEQ ID NO: 9:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: Amino Acid
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US-09-774-954-9
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3 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 61
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JONES, Karen Anne; WARREN, Bridget;
THANGAVELU, Kavitha; HONCHELL, Cynthia;
JOLLEY, Helen E.;HAFALIA, April J.A.; Huijun Z. Ring
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
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                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: 1BM PC compatible
COMPUTER: 1BM PC compatible
CORPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winbatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFICATION ATMANNOM PRIOR APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
ATTORNEY/AGENT INFORMATION:
NAME: SYODOGA CTAIG G.
REFERENCE/DOCKET NUMBER: 39,044
REFERENCE/DOCKET NUMBER: 91041P1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: SWARNAKAR, Anita; YUB, Henry;
APPLICANT: SWARNAKAR, Anita; YUB, Henry;
APPLICANT: ELLIOTT, Vicki S.; BURFORD, Neil;
APPLICANT: DING, Li; TANG, Y. Tom;
APPLICANT: LEE, Soo Yeun; AZIMZAI, Yalda;
APPLICANT: CHAWLA, Narinder K.; GIETZEN, Kimberly J.;
APPLICANT: GRIFFIN, Jennifer A.; LAL, Preeti G.;
APPLICANT: YANG, Junming; BOROWSKY, Mark L.;
APPLICANT: RICHARDSON, Thomas W.; YUB, Hilbin;
Sequence 3, Application US/09774954
Publication No. US200400241645A1
GENERAL INFORMATION:
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: Linear
SEQUENCE DESCRIPTION: SEQ ID NO: 3:
                                                                                                                                                                                                   ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-471-450-26;
; Sequence 26, Application US/10471450;
; Publication No. US20040152877A1;
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 61 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: Amino Acid
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ORGANISM: DROSOPHILA
US-11-097-143-36192
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FILE REPERRICE: PF-0917 USN
CURRENT APPLICATION NUMBER: US/10/471,450
CURRENT APPLICATION NUMBER: US/10/471,450
CURRENT FILING DATE: 2003-09-10
PRIOR APPLICATION NUMBER: US (0/276,857
PRIOR FILING DATE: 2001-03-14
PRIOR FILING DATE: 2001-03-16
PRIOR FILING DATE: 2001-04-19
PRIOR FILING DATE: 2001-04-19
PRIOR PILING DATE: 2001-04-19
PRIOR PRILING DATE: 2001-04-19
PRIOR PRILING DATE: 2001-05-04
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OTHER INFORMATION: Incyte ID No: 7503717CD1
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Publication No. US20050208558A1
GENERAL INFORMATION:
APPLICANT: Venter, J. Craig
APPLICANT: et al.
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ORGANISM: Homo sapiens
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US-11-097-143-36192
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Matches 85
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TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLEIC ACID
TITLE OF INVENTION: ARRAYS, FOR DETECTING EXPRESSION OF 10,000 OR MORE
TITLE OF INVENTION: DROSOPHILA GENES.
FILE REPERRACE: CLOOD728
CURRENT APPLICATION NUMBER: US/11/097,143
CURRENT FILING DATE: 1999-10-05
PRIOR APPLICATION NUMBER: 60/157,832
PRIOR APPLICATION NUMBER: 60/161,931
PRIOR PELING DATE: 1999-10-05
PRIOR PELING DATE: 1999-10-19
PRIOR PELING DATE: 1999-10-19
PRIOR PELING DATE: 1999-11-28
PRIOR PELING DATE: 1999-11-28
PRIOR PELING DATE: 1999-11-28
PRIOR PELING DATE: 2000-01-12
PRIOR PELING DATE: 2000-01-12
PRIOR APPLICATION NUMBER: 60/175,693
PRIOR PELING DATE: 2000-01-12
PRIOR PELING DATE: 2000-01-12
PRIOR APPLICATION NUMBER: 60/184,831
PRIOR PELING DATE: 2000-01-12
PRIOR PELING DATE: 2000-01-12
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| : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        156 SQRFSPKEH----PVLALPGAPAQPPVLEEHRPLQKYMVWSDEMVKTGEAQIHAHLVRPY 211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        285 MRFARKLEQVAADFRRQALDTTDASAGVQRPAMWELERPKRNAKGGDYLCAHLRRGDFVR 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9 AGYLLYCPCMGR-FGNQADHFLGSLAFAKLINR-----TLAVPPWIEYQH-HKPPFTN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60 LHVSYQKYFKLEPLQAYHRVISLEDFM--EKLAPTHWPPEKRVAYCFEV-----
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8.1%; Score 159.5; DB 20; Length 490;
Best Local Similarity 22.4%; Pred. No. 4e-07;
Matches 92; Conservative 55; Mismatches 159; Indels 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 8, Application US/10471450
Publication No. US20040152877A1
GENERAL INFORMATION:
APPLICANT: JACKSON, Jennifer L.; BAUGHN, Mariah R.;
APPLICANT: SWARNAKAR, Anita, YUE, Henry;
APPLICANT: ELLIOTT, VICK, S.; BURFORD, Neil;
APPLICANT: DING, Li; TRNG, Y. TOM;
APPLICANT: LEE, Soo Yeun; AZIMZAI, Yalda;
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APPLICANT: HILLMAN, JENNIFER L.
APPLICANT: HILLMAN, JENNIFER L.
APPLICANT: BANDMAN, OLGA
TITLE CF INVENTION: SIGNAL PEPTIDE-CONTAINING MOLECULES
FILE REPERENCE: 039386-1568
CURRENT APPLICATION NUMBER: 08/10/820,474A
CURRENT FILING DATE: 2004-04-07
PRIOR APPLICATION NUMBER: 09/720,533
PRIOR FILING DATE: 2001-03-20
PRIOR FILING DATE: 2001-03-20
PRIOR FILING DATE: 1999-06-25
PRIOR APPLICATION NUMBER: 60/090,762
PRIOR APPLICATION NUMBER: 60/094,983
PRIOR APPLICATION NUMBER: 60/094,983
PRIOR APPLICATION NUMBER: 60/094,983
PRIOR APPLICATION NUMBER: 60/102,686
PRIOR APPLICATION NUMBER: 60/102,686
PRIOR PILING DATE: 1998-07-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
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Best Local Similarity 95.0%; Pred. No. 0.00087;
Matches 19; Conservative 1; Mismatches 0;
317 DLYILGQADHFIGNCVSSFTAFVKRERDLQG 347
                                                  371 DOWICAHARFFIGTSVSTFSFRIHEEREILG 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: misc feature; OTHER INFORMATĪON: Incyte Clone No: 1647884
US-10-820-474A-102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; Sequence 145078, Application US/10424599
; Publication No. US20040031072A1
; GENERAL INFORMATION:
                                                                                                                                                                                                         Sequence 102, Application US/10820474A Publication No. US20050155089A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24 MPAGSWDPAGYLLYCPCMGK 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MPAGSWDPAGYLLYCPCMGR 20
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PATTERSON, CHANDRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn version 3.3 SEQ ID NO 102
                                                                                                                                                                                                                                                                                                                              TANG, Y. TOM
GORGONE, GINA A.
CORLEY, NEIL C.
GUEGLER, KARL J.
BAUGHN, MARIAH R.
AKERBLOM, INGRID E
AU-YOUNG, JANICE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: LAL, PREETI
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APPLICANT:
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129 SGGPFIDQV-YVLQSYAE------GWKEGTWEEKVDERPCIDQLLYSQDKHEYYRGWF 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPE------VAQV 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             92 THWPPEKRVAYCFEVAAQRSPDKKTCPMKEGN----PFGPFWDQFHVSFNKSELFTG-- 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          145 ------REQWSQRFS 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180 WGYEETRGINVSCLSVQGSASIVAPLILRNTSARSVMLDRAENLIHDHYGGKEYWDTRRS 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               161 PKEHPVLALPGAPAQFPVLEEHR-------PLOKYMVWSDEMVKTGEAQIHAHL 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240 -----MVFARHLREVGDEFRSRHINSTDDADRIPFOE--DWMKWKVKLGSA-----L 284
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -------QDVPSLEGA 312
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 7.2%; Score 142; DB 16; Length 429; Best Local Similarity 22.0%; Pred. No. 2.1e-05; Matches 99; Conservative 46; Mismatches 138; Indels 168; Gaps
                            APPLICANT: GRIFFIN, Jennifer A.; LAL, Freeti G.;
APPLICANT: YANG, Junming; BOROWSKY, Mark L.;
APPLICANT: RICHARDSON, Thomas W.; YUE, Huibin;
APPLICANT: BECHA, Shanya; FORSYTHE, Ian J.;
APPLICANT: JONES, Karen Anne; WARREN, Bridget;
APPLICANT: THANGAVELU, Kavitha; HONCHELL, Cynthia;
APPLICANT: JOLLEY, Helen E.; HAFALIA, April J.A.; Huijun Z. Ring
TITLE OF INVENTION: NUCLEIC ACID ASSOCIATED PROTEINS
      CHAWLA, Narinder K.; GIETZEN, Kimberly J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   285 GGPYLGVHLR-------RKDFIWGHR----
                                                                                                                                                                                                                                                         TITLE OF INVENTION: NUCLELL ACLE ACCURATION.
FILE REFERENCE: PF-0917 USN
CURRENT APPLICATION NUMBER: US/10/471,450
CURRENT FILING DATE: 2003-09-10
PRIOR PELING DATE: 2003-09-14
PRIOR PELING DATE: 2001-03-14
PRIOR PLING DATE: 2001-03-16
PRIOR PILING DATE: 2001-04-19
PRIOR PLING DATE: 2001-05-04
PRIOR PLING DATE: 2001-05-04
PRIOR PLING DATE: 2001-05-04
PRIOR PLING DATE: 2001-05-04
PRIOR PLING DATE: 2001-05-04
PRIOR PLING DATE: 2001-05-04
PRIOR PLING DATE: 2001-05-10
PRIOR PLING DATE: 2001-05-10
PRIOR PLING DATE: 2001-05-11
PRIOR PLING DATE: 2001-05-11
PRIOR PLING DATE: 2001-05-11
PRIOR PLING DATE: 2001-05-11
PRIOR PLING DATE: 2001-05-11
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PRIOR PLING DATE: 2001-05-11
PRIOR PLING DATE: 2001-05-11
PRIOR PLING DATE: 2001-05-11
PRIOR PLING DATE: 2001-11-16
NUMBER OF SEQ ID NOS: 52
SOFTWARE: PERL PROGRAM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; NAME/KEY: misc feature
, OTHER INFORMATION: Incyte ID No: 7493913CD1
US-10-471-450-8.
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APPLICANT: LA Rosa Thomas J
APPLICANT: La Rosa Thomas J
APPLICANT: La Rovalic David K
APPLICANT: Sovalic David K
APPLICANT: Sovalic David K
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)8
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILIG DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 145078
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                                                                    Gaps
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0
Length 150;
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; Sequence 162121, Application US/10437963
; Publication No. US20040123343A1
; GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: La Rosa, Thomas J.
APPLICANT: Cao, Yongwei
APPLICANT: Wu, Weil
APPLICANT: Barbazuk, Brad
APPLICANT: Barbazuk, Brad
APPLICANT: Li, Ping
TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules
TITLE OF INVENTION: 191221

TURENT FILING DATE: 2003-05-14

NUMBER OF SEQ ID NOS: 204966
; SEQ ID NO 162121

LENGTH: 441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 19.9%; Pred. No. 0.1;
Matches 77; Conservative 63; Mismatches 147; Indels 99; Gaps 17;
                                                                                                                                                                                  23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                302 TMSKPEAVWDE--DTRKPKKKTVQ----DVLGKF-----SFDDDVMAIGDVFYAEVERE 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 350 WVWQ-------DGGPIAHKCKTLIEPNRLI-------LLTAQRFIQTFLGRNF 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                389 IALHFR-----RHGFLKFCNAKKPSCFYPIPQAAD------CI--LRVVEMA- 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         272 KLWVRSLDAQSVYVATD-SESYVPELQQL--FKGKVKVVSLKFE------312
                                                                                                                                                                                                                                                                                                                                     248 INKCLGKKVVVSFDVFSNLKKGHLHIDKFLCYFS-QPQPCY----LDDBRLKKLGALGL 301
                                                                                                                                                                                                                                                                                                                                                                                         95 PPEKRVAYCFEVAAQRSPDKKTCPMKEGNPFGPFWDQFHVSFNKSELFTGISFSASYREQ 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     155 WSORFSPKEHPVLALPGAPAQF---PVLEEHRPLQKYMVWSDEMVKTGEAQIHAHLVRPY 211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        212 VGIHLRIGSDWKNACAMLKDGTAGSHFMASPQCVGYSRSTAAPLTWTWCLPDLKEIQRAV 271
                                                                                                                                                                                                                                                           190 WNPKDGKFLLAICVS--GQMSNHLICLEKHIFFAALLNRVLVIPSSKVDYQYDRVVDIDH 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55 ------PPFTNL---HVSYQK---YFKLEPLQAYHRVISLED-FMEKLAPTHW 94
                                                                                                                                                                                                                        6 WDPA-GYLLYCPCMGRFGNQADHFL---GSLAFAKLLNRTLAVP-PWIEYQHHK-----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481 DGDSQVEAMLDKTİCAMSSVFİĞAPGSTFTEDILRLRKDWGSAS 524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       313 -----VAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRPS 350
                                                                       ; OTHER INFORMATION: Clone ID: PAT_MRT3847_102023C.1.pep
US-10-424-599-145078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; OTHER INFORMATION: Clone ID: PAT_MRT4530_61241C.1.pep
US-10-437-963-162121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Oryza sativa
                     TYPE: PRT
ORGANISM: Glycine max
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US-10-437-963-162121
LENGTH: 543
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Ab125967 Drosophil
Ab125966 Drosophil
Ada21150 Human sec
Ab973868 Human cDN
Aa298210 Human sig
Ab125964 Drosophil
Ada21178 Human ORF
Ada212262 Arabidops
Adq97980 Human can
Adq97980 Human Can
Aak52494 Human pol
Aav68634 First Eco
Abli3947 Drosophil
Add56824 Novel can
Aad07629 Human sec
Abli3946 Drosophil
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Aaf21609 Neisseria
Aan91052 Phage DNA
Aaq05241 Sequence
Adb57903 Toxicity-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Abr19142 Aspergill
Abr18548 Aspergill
Aar73291 Human imm
Abr17954 Aspergill
Aac54555 Arabidops
Aaa81497 N. mening
                                                                                                                   Aak79915 Human imm
Aal03344 Human rep
Ach3225 Human end
Ab113952 Drosophil
Ack55532 Human end
Aa£23894 Human sec
Ada21149 Human sec
                                                                                                                                                                                                                                           Ada21151 Human sec
Abs73886 Human cDN
Ads96503 Drosophil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ade95587 Human NOV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag= b
/note= "this actively expressed O-fucosyltransferase
sequence is claimed for in claim 9"
1. 1098
/*tag= a
/product= "human heart O-fucosyltransferase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human heart O-fucosyltransferase encoding DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                     ADA21178
AAC74541
AAC52262
ADQ97980
ADE95589
                                                  ADQ56824
AAD07629
ABL13946
ABL13894
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ABL25967
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-MODEL=frame+p2n.model -DEV=xlh
-DeJcOar2 1/USD97749514954/runat 25102005_105431_6380/app_query.fasta_1.917
-Q=/coar2 1/USD9770_spool_h/USO9774954/runat_25102005_105431_6380/app_query.fasta_1.917
-DEAN_GENEGGG_0FMT=fastap -SUFFTX=rng -MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-UNIT$\overline{S}=\text{Dits} -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-UNIT$\overline{S}=\text{Dits} -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-UNIT$\overline{S}=\text{Dits} -START=1 -END=-1 -MATRIX=DIOSUM62 - ALIGN=15 -MODE=LOCAL
-USER=USO9774954_@CGN 1 1_703 @runat_25102005 105431_6380 -NOPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG_SCORES=0 -MAIT -DSPBILOK=170 -LONGLOG
-DSV TIMEOUT=120 -WARN TIMEOUT=30 -THREADS=1 -XGAPPEXT=0.5 -FGAPPOP=6
-FGAPEXT=7 -YGAPPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
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Adf81754 Leukaemia
Aav65633 Plasmid c
Aak51510 Human pol
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                                                                                                                           October 26, 2005, 03:15:37 ; Search time 1022.3 Seconds (without alignments) 2113.573 Million cell updates/sec
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                                                                                                                                                                                                                                1 MPAGSWDPAGYLLYCPCMGR......QGRPSSFFGWDRPPKLRDEF 365
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Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                        nucleic search, using frame_plus_p2n model
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Database

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Result

Searched:

Run on:

us-09-774-954-2.rng

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                                                                                                                                                                                                                                                                                                   This DNA encodes a human heart O-fucosyltransferase that can glycosylate an epidermal growth factor (EFF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, activated O-fucose falinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of C-fucosyltransferase, to promete survival of sensory (retinal) neurons. Probes based on EFF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-fucosyltransferase
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                                                                                                                                                                                                Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving overexpression of the enzyme.
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Conservative:
Mismatches:
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                                                                                                                 Wang Y, Spellman MW;
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P-PSDB; AAW80571.
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Best Local Similarity:
                              31-JAN-1997;
26-NOV-1997;
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                                                                                                                                                                                                                                                                                                                                                                                   rerececagrereregecracacececacacacecececececerargaerarerec
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                                                             AspTrpLysAsnAlaCysAlaMetLeuLysAspGlyThrAlaGlySerHisPheMetAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tumour-associated antigenic target; TAT; human; overexpression; catumour; diagnosis, cell proliferative disorder; breast cancer; colorectal cancer; lung cancer; ovarian cancer; liver cancer; central nervous system cancer; bladder cancer; pancreatic cancer; cervical cancer; melanoma; leukaemia; hybridiaation probe; chromosome identification; chromosome mapping; gene mapping; gene therapy; cytostatic; gene; ss.
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Cytostatic; Gene therapy; leukaemia;
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30-APR-2002; 2002EP-0009758
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                                                                                                                                                                                                                                                                                       The invention relates to human tumour-associated antigenic target (TAT) polypeptides, and their related nucleic acids. The TAT polypeptides are overexpressed in cancer tissues compared to normal tissues, and may thus serve as effective targets for the diagnosis and treatment of cancer in mammals. The invention also relates to nucleic acid and polypeptide polypeptides at least 80% identical to the TAT nucleic acids and polypeptide and polypeptides and methods and compositions for the treatment or TAT polypeptide; and methods and compositions for the treatment or TAT polypeptides, mutabody specific for a TAT polypeptide, nucleic acids, antibodies, antagonists, binding molecules and compositions are useful for diagnosing or treating a cell proliferative disorder associated with concert, pancreatic cancer, colorectal cancer, lung cancer, cancers such as breast cancer, colorectal cancer, lung cancer, carvical cancer, cancers of the central cancer, pancreatic cancer, cervical cancer, cancers of the central cancer, nucleic acids may further be used as hybridisation probes, in chromosome and gene mapphing, in chromosome identification and in gene therapy. The present sequence
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                                                                                                               New tumor-associated antigenic target polypeptides and nucleic acids, useful in preparing a medicament for treating or detecting a proliferative disorder, e.g. breast, lung, colorectal, ovarian or
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                                                                     for human O-fucosyltransferase."
                                                                                                           O-fucosyltransferase; epidermal growth factor; EGF; glycosylation;
O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart; ss.
                                 AlaginileHisAlaHisLeuValArgProTyrValGlylleHisLeuArgIleGlySer
         Plasmid construct for expression of human O-fucosyltransferase.
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                                                                   Determining the subtype of leukemia cells and whether a patient sample contains leukemia cells or other cells, useful for treating leukemia, comprises determining the expression profile of a group of markers in a patient sample.
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Brors B, Mergenthaler S;
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                                 Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving overexpression of the enzyme.
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27-AFR-2000; 2000US-00560B75.
20-UJN-2000; 2000US-00598075.
19-UJL-2000; 2000US-0063325.
01-SEP-2000; 2000US-00654936.
15-SEP-2000; 2000US-00634361.
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                                                                             Nucleic acids encoding polypeptides with cytokine-like activities, useful in diagnosis and gene therapy.
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Yang Y, Wejhrman T,
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1867.50
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P-PSDB; AAM78377.
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                                                            Human polynucleotide SEQ ID NO 2023.
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Agundi V, Zhou P, Xu C, Cao
J, Zhang J, Ren F, Chen R,
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 Drmanac RT, A
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 Tang YT, Liu C,
Ma Y, Zhao QA, V
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This represents a first EcoR1 nucleotide fragment of human KIAA0180. This 5009 basepairs partial CDNA encodes for a protein of unknown function from myeblast cell line KG-1. The invention provides a human heart Ofucosyltransferase that can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated Ofucose residue. Inhibitors of Ofucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of Ofucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-
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                                                                                                                                                                                                                                                                                                                                                                                                  43 AlaValProProTrp1leGluTyrGlnHisHisLysProProPheThrAsnLeuHisVal
domains - useful for diagnosis and treatment of diseases involving overexpression of the \ensuremath{\mathsf{enzyme}} .
                                                                                                                                                                                                            Sequence 5009 BP; 1235 A; 1195 C; 1268 G; 1311 T; 0 U; 0 Other;
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Matches:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABLIG176-ABL30511), expressed DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL016176-ABL30513).
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                                                                                                                                                                       962 CGGGACCTCCAGGGGGGGGCCGTCTTTTTTTCGGCATGGACAGGCCCCCTAAGCTGCGG
ValTyrValAlaThrAspSerGluSerTyrValProGluLeuGlnGlnLeuPheLysGly
                                                                                                343 ArgAspleuGlnGlyArgProSerSerPhePheGlyMetAspArgProProLysLeuArg
                                                                                                                                                                                                                                                                                                                                                                                            Drosophila melanogaster expressed polynucleotide SEQ ID NO 36323
                                                                                                                                                                                                                                                                                                                                                                                                                developmental biology; cell signalling; insecticide;
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11-JUL-2000; 2000US-00614150.
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pharmaceutical; gene; ss.
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1022 GACGAGITC 1030
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                                                                                                                                                                                                                                                                                                27 HisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsnArgThrLeuAlaValProPro
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TCTAAGGATTTCAFCCGAGAGCAGTTGCCTCGGGGTGCCTTTTTGGGCATTCATCTGCGC
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                                                                                                                                                                                                                                         7 AspProAlaGlyTyrLeuLeuTyrCysProCysMetGlyArgPheGlyAsnGlnAlaAsp
ABB72072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                 82 GATCCCAATGGCTACCTCACTGTCCGTGTATGGGACGCTTTGGCAACCAGGCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                    TyrPheLysLeuGluProLeuGlnAlaTyrHisArgValIleSerLeuGluAspPheMet
                                                           Sequence 1209 BP; 302 A; 313 C; 307 G; 287 T; 0 U; 0 Other;
                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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This invention is related to a novel isolated canine nucleic acid sequences and the construction of canine microarrays containing a significant portion of the canine genome. The isolated canine nucleic cid sequences of the invention may be useful for drug screening and toxicity assays. The invention is therefore useful for assessing the impact, including toxicity, of a compound, pharmacoutical agent or impact, including toxicity, of a compound, pharmacoutical agent or convironmental pollutant on cell or living organism. The methods are useful for detecting genes that are up- or down-regulated in canines in a disease state. The sequences are useful as dismostic agents or markers to detect a cellular response in a sample individually or as part of a gene expression profile. It is also useful as a target for agents that modulate gene expression or activity. The database is useful for producing electronic Northerns that allow the user to determine the cell type or tissue in which a given gene is expressed and to allow type or tissue in which a given gene is expressed and to allow the abundance or expression level of a given gene in a
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Or
                                                                                     1024 CCGGAGGATGATCCTTACCTGGACTTGGCCATTCTCGGACAGTCGAACCACTTATCGGC
                                                                                                                                 310 LysProGluValAlaGlnValAspLeuTyrIleLeuGlyGlnAlaAspHisPhelleGly
                                                                                                                                                                                                               AsnCysValSerSerPheThrAlaPheValLysArgGluArgAspLeuGlnGlyArgPro
                                                       291 SerTyrValProGluLeuGln---GlnLeuPheLysGlyLysValLysValValSerLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               environmental pollutant; cellular response; gene expression profile; toxic response; liver necrosis; fatty liver disease; protein adduct formation; hepatitis; dog; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New isolated nucleic acid molecule, useful for drug screening and toxicity assays or for assessing the impact, including toxicity, of compound, pharmaceutical agent or environmental pollutant on a cell
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                                                                                                                                                                                                                                                                                         350 SerSerPhePheGlyMetAspArgProProLysLeuArgAsp 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel canine microarray-related DNA sequence SeqID8126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 canine microarray; drug screening; toxicity assay;
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particular tissue or cell. The methods are ussful for determining the similarity of a toxic response to one or more individual compounds. The methods are useful for predicting at least one toxic response or the likelihood that a compound or test agent will induce various specific pathologies such as those of the liver (liver necrois, fatty liver disease, protein adduct formation or hepatitis), those of the kidney, heart, brain or testes, or other pathologies associated with at least of the toxins. The methods are also useful for predicting or elucidating the potential callular pathways influenced, induced or medilated by the compound or test agent due to the similarity of the expression profile compound or the profile induced by a known toxin. The present sequence is that of a canine plak sequence which was claimed for use during the profuce or a canine microarray of the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human secreted protein-encoding gene 18 cDNA clone HMWEY26, SEQ ID NO:69.
                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ArgPheSerProLysGluHisProValLeuAlaLeuProGlyAlaProAlaGlnPhePro
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                                                                                                                                                                               Sequence 610 BP; 155 A; 171 C; 149 G; 129 T; 0 U; 6 Other;
                                                                                                                                                                                                                 Length:
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Conservative:
Mismatches:
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AMD07571-AMD07645 represent cnNAs corresponding to 25 human secreted protein genes, and AAE01055-AAE00116 represent the proteins they encode. AAE01127-AAE01150 represent human secreted protein fragments. The genes and their corresponding secreted proteins are useful for preventing, treating or ameliotrating medical conditions. e.g., by protein or gene treating or ameliotrating medical conditions, e.g., by protein or gene conditions can be diagnosed by determining the presence of muctions in the new genes. Specific uses are described for each of the muttions in the new genes. Specific uses are described for each of the muttions in the new genes. Specific uses are described for each of the amount of the lisuses in which they are most highly expressed, and include developing products for the diagnosis or treatment of an include developing products for the diagnosis or treatment of anormalities, haematopoietic disorders, diseases of the immune system, ALDS, autoformune diseases, cancer, tummours, foetal and developmental anormalities, neurological disorders, schizophrenia, skin disorders disorders, angiogenic disorders, kidney disorders, and disorders, angiogenic disorders, kidney disorders, and disorders, pregnancy related disorders, ender or all disorders, angiogenic disorders, schizophrenia, asthma, skin disorders and sorders, pregnancy related disorders, ender or all devolutes, and confidential cell proliferation, to prevent skin aging due to sunburn, to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   occurring L-amino
foctal abnormality; developmental abnormality; haematopoietic disorder; immune system disorder; AIDS; autoimmune disease; rhematoid arthritis; inflammation; allergy; neurological disorder; Alzheimer's disease; Parkinson's disease; cognitive disorder; schizophrenia; asthma; stin disorder; psoriasis; sepsis; diabetes; atherosclerosis; cardiovascular disorder; anglogenic disorder; kidney disorder; gastrointestinal disorder; pregnancy-related disorder; pene inerapy; endocrine disorder; infection; wound healing; vulnerary; cell culture; chemotaxis; food additive; binding partner identification; chromosome 2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nucleic acids encoding 25 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. Gaucher's disease, Alzheimer's disease, Scimitar syndrome, Creutzfeldt-Jacob disease, diabetes mellitus and multiple sclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein precursor"
, aa:Xaa)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         product "Human secreted protein precurs franch excepte [pos.10. .12, aa.Xaa) [transl excepte [pos.10. .12, aa.Xaa] [transl excepte [pos.13. .15, aa.Xaa] [transl excepte [pos.13. .15, aa.Xaa] [transl excepte [pos.42. .444, aa.Xaa] ] [transl excepte ap. ap. aa.Xaa] [transl excepte [pos.42. .444, aa.Xaa] ] [transl excepte [pos.42] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [transl excepte ] [trans
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P-PSDB; AAE03110.
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primary tissues, to regenerate tissues, to identify their cognate ligands or binding partners, and in chemotaxis, and can be used as a food additive or preservative to modify storage properties. Antibodies specific for a protein of the invention can be used in alleviating symptoms associated with the disorders mentioned above, and in diagnostic immunoassays e.g., radioimmunoassay or enzyme linked immunosorbent assay (ELISA). The present sequence represents a human secreted protein-encoding CDNA of the invention
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                                                                                                                                                                         detection reagent for detecting 1000 or more for elucidating cell signaling and cell-cell
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                                                                                           292 rValProGluLeuGln---GlnLeuPheLysGlyLysValLysValValSerLeuLysPr 311
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                  (709 GCCACTICATITIGATGTGCATCATAGCAACGAGGCTGCCAAGTGGCAGACCAAATATCC 1650
                                                                                                                                                        219 YSerAspTrpLysAsnAlaCysAlaMetLeuLysAspGlyThrAlaGlySerHisPheMe 239
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                                                                                                                                                                                                                                      259 tÇysLeuproAspLeuLysGlujleGlnArgAlaValLysLeuTrpValArgSerLeu-- 278
                                                                                                                                                                                                                                                                             143 rGlylleSerPheSerAlaSerTyrArgGluGln------TrpSerGlnArgPheSe 160
                                                                                                                                 180 uGluHisArgProLeuGlnLysTyrMetValTrpSerAspGluMetValLysThrGlyGl
                                       rProLysGluHisprovalLeuAlaLeuProGlyAlaproAlaGlnPheProvalLeuGl
                                                                                                                    200 ualaGlnileHisAlaHisLeuValArg---ProTyrValGlyIleHisLeuArglleGl
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|1061 CTTCTGGGGATTC-----CCCAAGGAAAAGGAT 1034
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11-JUL-2000; 2000US-00614150.
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143 rGly11eSerPheSerAlaSerTyrArgGluGln------TrpSerGlnArgPheSe 160
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                                                                                                                                 The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention is useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher enkaryotes for the development of insecticides, therapeutics and pharmaceutical forugs. The invention discloses genomic DNA sequences (ABLIG176-ABL30511), expressed DNA sequences (ABLIG175) and the encoded proteins (ABBS7737) and ABR370712). The sequence data for this patent did not form part of printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
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381 CCTGGCCGACGACATTTGGCCAGAATCGGAGGGAGGTGTCATTTTGCTACAAAGGAACGATA 322
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                                                                                                               Claim 1; SEQ ID NO 36164; 21pp + Sequence Listing; English.
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P-PSDB; ABB69791.
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02-OCT-2000; 2000US-0237037P.
02-OCT-2000; 2000US-0237037P.
02-OCT-2000; 2000US-0237039P.
13-OCT-2000; 2000US-023703P.
13-OCT-2000; 2000US-023937P.
20-OCT-2000; 2000US-023937P.
20-OCT-2000; 2000US-024178FP.
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220
                  180 uGluHisArgProLeuGlnLysTyrMetValTrpSer-AspGluMetValLysThrGlyG 200
141 TGCAGAATCATATCCCGTACTCGCGTTCACCGGAGCTCCGGCTAGTTTTCCTGTTCAGCT 82
                                                                                 ------ATAGGGAAGCAICTAAGGATTTCAT 13
                                                             200 luAlaGlnIleHisAlaHisLeuValArgProTyrValGlyIleHisLeuArgIleGlyS
                                                                                                                                                                                                                                                   Human; immune; haematopoietic; immune/haematopoietic antigen; cancer; cytostatic; gene therapy; vaccine; metastasis; ds.
                                                                                                                                                                                                                               Human immune/haematopoietic antigen genomic sequence SEQ ID NO:34727
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17-MAR-2000;
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19-MAY-2000;
07-JUN-2000;
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2611 GACCTGAAGGAGATCCAGAGGCTGTGAAGCTCTGGGTGAGGTCGCTGGATGCCCAGTTG 2670
263 AspleutysGluIleGlnArgAlaValLysLeuTrpValArgSerLeuAspAlaGlnSer 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human, reproductive system related antigen, reproductive system disorder; cancer; gene therapy; ds.
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2000US-021681P.
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2000US-021681P.
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24-FBB-2000;
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116-MAR-2000;
118-APR-2000;
218-APR-2000;
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20-JUN-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAK54951 to AAK64702 encode the human immune/haematopoietic antigen (1) amino acid sequences given in AAM82100 to AAM91921. (1) have cytostatic activity, and can be used in gene therapy and vaccine production. (1) proteins and polymuclectides may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate (1) expression. For example, they may be used to treat disorders associated with decreased example, they may be used to treat disorders associated with decreased cyptosic or the activity of (1) by expressing inactive proteins or to supplement the patients own production of (1). Additionally, (1) polymuclectides may be used to produce the secreted (1), by inserting the concleic acids into a host cell and culturing the cell to express the diagnose and treat immune/haematopoietic-derived cells. AAK64703 to AAK87694 represent human immune/haematopoietic-derived cells. AAK64703 to AAK87695 and AAM82169 represent human immune/haematopoietic antigen genomic sequences from the present invention. AAK54942 to AAK84950 and AAM82169 represent suce in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlnCysValGlyTyrSerArgSerThrAlaAlaProLeuThrMetThrMetCysLeuPro 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nucleic acida encoding human immune/hematopoietic antigen polypeptides, useful for preventing, diagnosing and/or treating cancers and metastasis.
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  17-NOV-2000; 2000US-0249214P.
17-NOV-2000; 2000US-0249215P.
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17-NOV-2000; 2000US-024929P.
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17-NOV-2000; 2000US-024929P.
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2000US-0240960P.
2000US-0241785P.
2000US-0241786P.
2000US-0241837P.
2000US-0241808P.
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2000US-0241808P.
2000US-0241826P.
2000US-0246474P.
2000US-0246474P.
2000US-0246474P.
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Mismatches:
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Percent Similarity: Best Local Similarity: Query Match: DB:

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2670

282

2730

ValTyrvalAlaThrAspSerGluSerTyrValProGluLeuGlnGlnLeuPheLysGly 302

GICTACGTIGCTACTGATTCCGAGAGTTATGTGCCTGAGCTCCAACAGCTCTTCAAAGGG

Lysvallysval 306

303

2671 283

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Isolated nucleic acid molecule encoding a reproductive system antigen is used in preventing, treating or ameliorating a medical condition.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention provides the protein and coding sequences of a number of human reproductive system related antigens. These can be used in the prevention and treatment of reproductive system disorders, including cancer. The present sequence is a genomic sequence encoding a protein of the invention
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17-NOV-2000; 2000US-0249214P.
17-NOV-2000; 2000US-0249215P.
17-NOV-2000; 2000US-0249214P.
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The invention relates to an isolated polymuclectide comprising any one of 38043 cDNA sequences, appearing as ACH12789-ACH50831 whose sequence was determined by the technique of SBH (sequencing by Mybridisation). Also included is a purified polymeptide comprising a sequence corresponding to a reading frame of the novel polymuclectide. The nucleic acid sequences are useful in diagnostics as expressed sequence tags (EST) for identifying expressed genes or for physical mapping of the human genome, in foremsics, in assessing biodiversities, or in identifying mutations in foremsics, in assessing biodiversities, or in identifying mutations captures are also useful as Mybridisation probes, as oligomers for PCR, for chromosome and gene mapping, in the recombinant production of the insequence and generating antisense DNA or RNA. The purifited polypeptide protein, or in generating antisense DNA or RNA. The purifited polypeptide is useful for generating antisense DNA or RNA. The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from USPTO at equation of comma directly from USPTO at equation of the sequence. Huml?PDcID=20030073623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New polynucleotide sequences obtained from various cDNA libraries, useful as hybridization probes, as oligomers for PCR, for chromosome and gene mapping, in the recombinant production of protein, or in generating antisense DNA or RNA.
                                                                                                                                                                                                                     Human; ss; sequencing by hybridisation; SBH; expressed sequence tag; EST; genome mapping; biodiversity; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Drmanac RT, Labat I, Stache-Crain B, Dickson MC, Jones LW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 479 BP; 99 A; 140 C; 143 G; 97 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; SEQ ID NO 19437; 44pp; English.
                                                                                                                                                                                        Human endothelial cell cDNA #358
                                                                         ACH32225 standard; cDNA; 479 BP
                                                                                                                                                                                                                                                                                                                                                                                                       30-JUL-2001; 2001US-00918995.
                                                                                                                                                                                                                                                                                                                                                                                                                                           30-JUL-2001; 2001US-00918995.
2731 AAGGTATGTGTG 2742
                                                                                                                                                     13-OCT-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (DEMAA) DRWANAC R T.
(LABAA) LABAT I.
(STACA) STACHE-CRAIN B.
(DICKA) DICKSON M C.
(JONEA) JONES L W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2003-615964/58.
                                                                                                                                                                                                                                                                                                                              US2003073623-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                      17-APR-2003.
                                                                                                                   ACH32225;
                                        RESULT 15
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290 GluSerTyrValProGluLeuGlnGlnLeuPheLysGlyLysValLysValValSerLeu 309

US-09-774-954-2 (1-365) x ACH32225 (1-479)

479 76 0 0 0

Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:

3.9e-32 393.00 100.00% 100.00%

> Percent Similarity: Best Local Similarity:

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GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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- nucleic search, using frame_plus_p2n model

OM protein

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Run on: October 26, 2005, 09:31:14; Search time 1559.68 Seconds (without alignments)

Title: US-09-774-954-2
Sequence: 1979
Scoring table: BLOSUM62
Xgapop 10.0, Xgapext 0.5
Ygapop 10.0, Ygapext 0.5
Ygapop 0.0, Ygapext 7.0
Perfect 6.0, Delext 7.0
```

Searched: 9772377 segs, 4126317084 residues

Total number of hits satisfying chosen parameters:
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Command line parameters:

Command line parameters:

MODEL=frame+_Dr.mcdel -DEV=xlh
-Q-/cgn2_1/USFTO_spool h/US09774954/runat_25102005_105434_6433/app_query.fasta_1.917
-DB-PublIshed_Applications_NA_-QFMT=fastap_-SUFFIX=rmpb-MINMATCH=0.1
-LOOPCL=0_LOOPEXT=0_-UNITS=bits_-START=1_-END=1_-MATRIX=bits0sum62
-TRANS=human40.cdi_-LIST=45_-DOCALIGN=200_-THR_SCORE=pct_-THR_MX=100
-THR_MIN=0_-ALIGN=15_-MODE=LOCAL_OUTFMT=pt_0_-NORM=ext_-HEAPSIZE=500_-MINLEN=0
-MAXIEN=2000000000_-USR=CS09774954_@CGN_1_1_684_@runat_2510205_105205_10534_46433
-NOCPU=6_-ICPU=3_NO_MMAP_-LARGEQUERY_N-NGG_SCORES=0_-MAIT_-DSPBLOCK=100
-LONGLOG_-DBV_TIMEOUT=12_0_-WARN_TIMEOUT=30_-THREADS=1_-XGAPOP=10_-XGAPEXT=0.5
-FGAPOP=6_-FGAPOXT=7_-YGAPOP=10_-YGAPEXT=0.5_-DELOP=6_-DELEXT=7_-

Published Applications_NA:*

| cgm2_6/ptodata/1/pubpna/USO7_PUBCOMB.seq:*
| cgm2_6/ptodata/1/pubpna/DecT_NEW_PUB.seq:*
| cgm2_6/ptodata/1/pubpna/USO6_NEW_PUB.seq:*
| cgm2_6/ptodata/1/pubpna/USO6_NEW_PUB.seq:*
| cgm2_6/ptodata/1/pubpna/USO6_NEW_PUB.seq:*
| cgm2_6/ptodata/1/pubpna/USO6_NEW_PUB.seq:*
| cgm2_6/ptodata/1/pubpna/USO8_NEW_PUB.seq:*
| cgm2_6/ptodata/1/pubpna/USO8_NEW_PUB.seq:*
| cgm2_6/ptodata/1/pubpna/USO8_NEW_PUB.seq:*
| cgm2_6/ptodata/1/pubpna/USO8_NEW_PUB.seq:*
| cgm2_6/ptodata/1/pubpna/USO8_NEW_PUB.seq:*
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| cgm2_6/ptodata/1/pubpna/USO9_NEW_PUB.seq:*
| cgm2_6/ptodata/1/pubpna/USIO6_PUBCOMB.seq:*
| cgm2_6

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

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17	7	ω,	402	σ	09-783-590-1150	11501
18	164	ω.	1961	20	.10-471-450-52	Sequence 52, Appl
19	-		1926	56	.11-097-143-36	3619
C 20	-		3926	56	-11-097-143-3619	3619
~	-		2434	20	-10-471-450-3	34, A
C 22	-		521	13	-09-925-065A-60	60244
~	1		160	24	.10-820-474A-23	236,
24	-		2238	19	-10-424-599-2	2236,
c 25	115		4104	56	-11-097-143-361	36187
N	-		1574	22	-10-764-420-210	2104,
27	-		1551	18	.10-062-674-187	1876,
28			3052	22	-10-956-157-414	4145,
29	106		2166	20	.10-437-963-596	59638
30	105		1512	22	-10-956-157-198	1986,
31	103	5.2	960	18	-10-309-290-	Sequence 119, App
32	103		096	18	-10-309-290-12	121,
9.6			1960	19	-10-425-114-31	31610
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37	101		2907	16	-10-128-714-31	312,
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## ALIGNMENTS

RESULT 1
US-09-774-954-16
Sequence 16, Application US/09774954
Sequence 16, Application US/09774954
Publication No. U320040241645A1
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman;
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STARE: California
COUNTRY: USA

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600
                                                                                                                                       220
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   COMPUTER READABLE FORM:

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disconding to the compatible COMPUTER: IBM PC compatible COMPUTER: IBM PC compatible SOFTWARE: WinPatin (Genentech) CURRENT APPLICATION NUMBER: US/09/74,954

FILING DATE: 30-Jan-2001

PRIOR APPLICATION NUMBER: US/08/978,741

APPLICATION NUMBER: US/08/978,741

APPLICATION NUMBER: US/08/978,741

FILING DATE: SC-NOV-1997

APPLICATION NUMBER: 08/792,498

FILING DATE: 31-JAN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-7/4-93-4-4

1) Sequence 4, Application US/09774954

1) Publication No. US20040241645A1

GENERAL INFORMATION:

1) TITLE OF INVENTION:

1) CORRESPONDENCES: 17

CORRESPONDENCES: 17

CORRESPONDENCE ADDRESS:

ADDRESSEE Genentech, Inc.

STREET: 1 DNA WAY

CITY: South San Francisco

STATE: COUNTRY: USA
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US-09-774-954-4
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COMPUTER READABLE FORM:

MEDIUM TYBE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winterin (Genentech)
CURREY APPLICATION DATA:
APPLICATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: US/08/978,741
FILING DATE: 31-JAN-1997
APPLICATION NUMBER: US/08/978,741
FILING DATE: 31-JAN-1997
APPLICATION NUMBER: 39,044
REPERENCE/DOCKET NUMBER: 39,044
REPERENCE/DOCKET NUMBER: 199,044
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Matches:
Conservative:
Mismatches:
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SEQUENCE DESCRIPTION: SEQ ID NO: 16:
US-09-774-954-16
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1979.00
100.00%
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Best Local Similarity:
Query Match:
DB:
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Pred. No.:
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1156 CGGGAGCGGGACCCCCAGGGGAGGCCGTCTTTCTTCGGCATGGACAGCCCCCTAAG 1215
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                                                                                                         CTGCCTGACCTGAAGGAGATCCAGAGGCTGTGAAGCTCTGGGTGAGGTCGCTGGATGCC
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                                                                                                                                                                                                                                                                                                LeuGlyGlnAlaAspHisPheIleGlyAsnCysValSerSerPheThrAlaPheValLys
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                                                                                                                                                 GINSerValTyrValAlaThrAspSerGluSerTyrValProGluLeuGlnGlnLeuPhe
                              SerProGlnCysValGlyTyrSerArgSerThrAlaAlaProLeuThrMetThrMetCys
                                                                               LeuProAspLeuLysGluIleGlnArgAlaValLysLeuTrpValArgSerLeuAspAla
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy COMPUTER: 1BM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genentech) CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1, Application US/09774954
Publication No. US20040241645A1
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR DATE: 30-Jan-2001
CLASSIPICATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIPICATION: CUNKNOWN>
PRIOR APPLICATION OF A.
PRILING DATE: 26-NOV-1997
APPLICATION NUMBER: US/08/978,741
FILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
NAME: SVODOGA, Craig G, REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: 91041P1
TELEPHONE: 650/225-1489
TELEPROXIS: 650/225-1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: Linear SEQUENCE DESCRIPTION: SEQ ID NO: 1: US-09-774-954-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: South San Francisco
STATE: California
COUNTRY: USA
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TYPE: Nucleic Acid
STRANDEDNESS: Single
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STREET: 1 DNA Way
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COMPUTER READABLE FORM:
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                                                            TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEPAN : 650/922-1489
TELEPAN : 650/922-9881
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 1300 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Single
TOPOLOGY: Linear
SEQUENCE DESCRIPTION: SEQ ID NO: 4:
               NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1041P1
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RESULT 4 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-301-822 US-10-30-822	SULT 4  -10-301-822-168  Sequence 168, App Publication No. U  SENERAL INFORMATI  APPLICANT: BERG  APPLICANT: Guil  APPLICANT: Guil  APPLICANT: Scha  APPLICANT: APPLICANT: Thib  APPLICANT: Thib  APPLICANT: Thib  APPLICANT: Thib  APPLICANT: Thib  APPLICANT: Thib  APPLICANT: Thib  APPLICANT: Thib  APPLICANT: Thib  APPLICANT: Thib  APPLICANT: Thib  APPLICANT: Thib  APPLICANT: THIRG DAT  PRIOR APPLICATION  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRIOR FILING DAT  PRI	SULT 4  10-301-822-168  Sequence 168, Application Publication No. US200301 GENERAL INFORMATION: APPLICANT: Millennium P. APPLICANT: Guillemette APPLICANT: Kamatkar, All APPLICANT: Kamatkar, All APPLICANT: Kamatkar, La TITLE OF INVENTION: NOW TITLE OF INVENTION: NOW TITLE OF INVENTION: NOW TITLE OF INVENTION: NUMBE PRIOR APPLICATION NUMBE PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PRIOR FILING DATE: 2002 PR	Application US/1030182 MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION MINION	18, Inc. 18, Inc. 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Alignment Scores: Pred. No.: Score: Percent Similarity: Pest Local Similarity Query Match:	nt Scores: 5.: Similarit val Simila	es: rity: ilarity:	1.31e-237 1979.00 100.00\$ 100.00\$ 16	Length: Matches: Conservative: Mismatches: Indels: Gaps:	5218 365 0 0 0	
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LeuProAspLeuLysGluIleGlnArgAlaValLysLeuTrpValArgSerLeuAspAla
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Matches:
CURRENT APPLICATION NUMBER: US/10/956,157
CURRENT FILING DATE: 2004-10-04
NUMBER OF SEQ ID NOS: 319805
SOFTWARE: Patentin version 3.2
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LENGTH: 5218
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SEQUENCE 4752, Application US/10956157

SEQUENCE 4752, Application US/10956157

PUBLICATION NO. US200S0118625A1

GENERAL INFORMATION:

APPLICANT: Wyeth

APPLICANT: Wounts, William

TITLE OF INVENTION: NUCLEIC ACID ARRAYS FOR DETECTING GENE EXPRESSION ASSOCIATED FILTE OF INVENTION: HUMAN OSTEOARTHRITIS AND HUMAN PROTEASES

FILE REFERENCE: 031896-043000 (AM 101081)
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                                                                           AlaTyrCysPheGluValAlaAlaGlnArgSerProAspLysLysThrCysProMetLys
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                                               419 GCATACTGCTTTTGAGGTGGCAGCCCAGCGAAGCCCAGATAAGAAGACGCTGCCCCATGAAG
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Ouery Match: 100.00% Indels: 0 DB: 11 Gaps: 0	-09-774-954-	07	4	Db 4296 TTTGGGAACCAGGCGATCACTTCTTGGGCTCTCTGGCATTTGCAAAGCTGCTAAACCGT 4355  Qy	4356 ACCTIGGCIGTCCCTCCTTGGATTGAGTACCAGCATCACAAGCCTCCTTTCACCAACCTC	Cy 61 HisvalSerTyrGlnLysTyrPheLysLeuGluProLeuGlnAlaTyrHisArgValIle 80	81 SerleugluaspPheMetGluLysLeualaProThrHisTrpProProGluLysArgVal	* -		Oy 121 GluGlyAsnProPheGlyProPheTrpAspGlnPheHisValSerPheAsnLysSerGlu 140	Oy 141 LeuPheThrGly1leSerPheSerAlaSerTyrargGluG1nTrpSerGlnArgPheSer 160	- 9	Qy         181 GluHisArgProLeuGlnLysTyrMetValTrpSerAspGluMetValLysThrGlyGlu         200           IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Oy 201 AlaGlnIleHisAlaHisLeuValArgProTyrValGlyIleHisLeuArglleGlySer 220	п 9	Qy         241 SerProGlnCysValGlyTyrSerArgSerThrAlaAlaAroLeuThrMetThrMetCys         260           Db         4956 TCTCCGCAGTGTGTGGGCTACAGCCGCAGCAGCACCCCCCTCACGATGACTATGTGC         5015	Qy 261 LeuProAspLeuLysGluIleGlnArgAlaValLysLeuTrpValArgSerLeuAspAla 280	Qy 281 GlnSerValTyrValAlaThrAspSerGluSerTyrValProGluLeuGlnGluLeuPhe 300	Qy         301 LysGlyLysValLysValValSerieuLysProGluValAaGalaClnValAspleuTyrIle         320           IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	m	7
Db 899 CYGCCTGACCTGAAGGAGATCCAAGGGCTGTGAAGCTCTGGGTGAGGGTGCGCTGGATGCC 958	281 GINServalTyrvalAlaThrAspSerGluSerTyrvalProGluLeuG	320		Oy 321 LeuGlyGlnAlaAspHisPheIleClyAsnCysValSerSerPheThrAlaPheVallys 340 hh 10.9 CTGGCCAACGACGACGACGACGAGGGGAGGGGGAGGGGGAGGGGGG	341 ArggluArgAspLeuGlnGlyArgProSerSerPheeheGlyMetAspArgProFroLys 360	1139	Oy 361 LeuArgAspGluPhe 365 	RESULT 6 US-09-774-954-5 ; Sequence 5, Application US/09774954	; Publication No. US20040241645Al ; GENERAL INFORMATION:	; APPLICANT: Yang Wang, Michael W. Spellman ; TITLE OF INVENTION: O-Fucosyltransferase ; CORRESPONDENCES: 17 ; CORRESPONDENCE ADDRESS:	ADDRESSEE: Genentech, Inc. STREET: 1 DNA May CITY: South San Francisco STRATE: California	COUNTRY: USA ZIF: 94080 COMPUTER READABLE FORM: MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk	COMPUTER: IBM PC compatible COMPUTER: IBM PC compatible COMPATING SYSTEM: PC-DOS/MS-DOS COMPARE: Winpatin (Genentech) COMPRENT APPLICATION DATA:	APPLICATION NUMBER: US/09/774,954 FILING DATE: 30-Jan-2001 CLASSIPICATION: <unknown> PRIOR APPLICATION DAYR:</unknown>	APPLICATION NUMBER: US/08/978,741 FILING DATE: 26-NOV-1997 APPLICATION NUMBER: 08/792,498 FILING DATE: 31-74N-1997	ATTORNEY/AGENT INFORMATION:  NAME: Svoboda, Craig G.  REGISTRATION UMBER: 39,044  REFERENCE, INMER: 19101P1	TELECOMMUNICATION INFORMATION: 	SEQUENCE CHARACTERISTICS: LENGTH: 11284 base pairs TYPE: Nucleic Acid STRANDEDNESS: Single	TOPOLOGY: Linear SEQUENCE DESCRIPTION: SEQ 1D NO: 5: US-09-774-954-5		t Similarity: 100.00\$ Conservative: ocal Similarity: 100.00\$ Mismatches:

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US-10-956-157-9986

Sequence 9986, Application US/10956157

Sequence 9986, Application US/10956157

Publication No. US20050118625A1

GENERAL INFORMATION:

APPLICANT: Wyeth

APPLICANT: Wyeth

TITLE OF INVENTION: UUCLEIC ACID ARRAYS FOR DETECTING GENE EXPRESSION ASSOCIATED WITH

TITLE OF INVENTION: HUMAN OSTEOARTHHITIS AND HUMAN PROTEASES

FILE REPERENCE: 031896-043000 (AM 101081)

CURRENT APPLICATION NUMBER: US/10/956,157
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                                                                                           CysPheGluValAlaAlaGlnArgSerProAspLysLysThrCysProMetLysGluGly
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                                                           GAGGATTTCATGGAGAAGCTGGCACCCACTGGCCCCCTGAGAAGCGGGTGGCATAC
                               GluaspPheMetGluLysLeuAlaProThrHisTrpProProGluLysArgValAlaTyr
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COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                          Sequence 7, Application US/09774954
Publication No. US20040241645A1
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTYON: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
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APPLICATION NUMBER: US/09/774,954
FILLING DATE: 30-Jan-2001
CLASSIFICATION: «Unknown»
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
FILLING DATE: 26-NOV-1997
APPLICATION NUMBER: 08/92,498
FILLING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NO: 7:
                                                                                                                                                                                                                                                                         ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: Linear SEQUENCE DESCRIPTION: SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 5009 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: Nucleic Acid
STRANDEDNESS: Single
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1844.00
100.00%
100.00%
93.18%
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Best Local Similarity:
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                                                                                                                               RESULT 7
US-09-774-954-7
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DB:
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Sequence 18161, Application US/11097143

Publication No. US2005020858A1

GENERAL IMPORMATION:

APPLICANT: Venter, J. Craig

APPLICANT: et al.

TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLEIC ACID

TITLE OF INVENTION: DETECTION EXPRESSION OF 10,000 OR MORE

TITLE OF INVENTION: DETECTION OF 10,000 OR MORE

TITLE OF INVENTION: DETECTION OF 10,000 OR MORE

TITLE OF INVENTION: DATE: 1999-10-05

PRIOR FILING DATE: 1999-10-05

PRIOR APPLICATION NUMBER: 60/160,191

PRIOR FILING DATE: 1999-10-19

PRIOR FILING DATE: 1999-10-19

PRIOR FILING DATE: 1999-10-12

PRIOR FILING DATE: 1999-10-12

PRIOR FILING DATE: 1999-10-12

PRIOR FILING DATE: 1999-10-12

PRIOR FILING DATE: 1999-10-12

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PRIOR FILING DATE: 1999-10-12

PRIOR FILING DATE: 1999-10-12

PRIOR FILING DATE: 1999-10-12

PRIOR FILING DATE: 2000-01-12

PRIOR FILING DATE: 2000-01-12

PRIOR FILING DATE: 2000-03-23

NUMBER OF SEQ ID NOS: 43008

SOUTHARE: PARESEQ FOR WINDOWS VERSION 4.0

SEQ ID NO 18161

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| Sequence 4751, Application US/10956157
| Publication No. US20050118625A1
| GENERAL INFORMATION:
| APPLICANT: Would: William | PAPLICANT: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would: Would:
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  ; CURRENT FILING DATE: 2004-10-04; NUMBER OF SEQ ID NOS: 319805; SOFTWARE: PatentIn vergion 3.2; SEQ ID NO 9986; LENGTH: 1400; TYBE: DATE; Home sapiens ORGANISM: Home sapiens US-10-956-157-9986
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ORGANISM: Homo sapiens
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         291 SerTyrValProGluLeuGln---GlnLeuPheLysGlyLysValLysValValSerLeu
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1144 TCGTACTTCTGGGGATTC------CCCAAGGAAAAGGAT 1176
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APPLICANT: Venter, J. Craig
APPLICANT: et al.
ITILE OF INVENTION: DETECTION KIT, SUCH AS NUCTITLE OF INVENTION: DATECTION KIT, SUCH AS NUCTITLE OF INVENTION: ARRAYS, FOR DETECTING EXPITINE OF INVENTION: BROSOPHILA GENES.
TITLE OF INVENTION: BROSOPHILA GENES.
TITLE OF INVENTION: BROSOPHILA GENES.
FILE REFERENCE: CLOOOTS8
CURRENT APPLICATION NUMBER: 60/157,832
PRIOR PILING DATE: 1999-10-05
PRIOR APPLICATION NUMBER: 60/161,932
PRIOR FILING DATE: 1999-10-28
PRIOR FILING DATE: 1999-11-2
PRIOR PILING DATE: 1999-11-2
PRIOR APPLICATION NUMBER: 60/161,932
PRIOR APPLICATION NUMBER: 60/161,932
PRIOR APPLICATION NUMBER: 60/161,933
PRIOR PILING DATE: 1999-11-2
PRIOR APPLICATION NUMBER: 60/175,693
PRIOR PILING DATE: 2000-01-2
PRIOR PILING DATE: 2000-02-24
PRIOR PILING DATE: 2000-03-23
NUMBER OF SEQ ID NOS: 43008
SOFTWARE: FRASESQ fOR WINDOWS VERSION 4.0
SEQ ID NO 18160
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Matches:
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Publication No. US20050208558A1
GENERAL INFORMATION:
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202 TGGGTGGAGTATCGT-----AGGGGTGAACTGCGATCCCGTCAGGTACCGTTCAACACA
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Query Match:
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TYPE: DNA
ORGANISM: DROSOPHILA
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                            US-11-097-143-18161
                                                           Alignment Scores:
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Sequence 18082, Application US/11097143
Publication No. US20050208558A1
GENERAL INFORMATION:
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:003 GGAGTATCGT-----AGGGGTGAACTGCGATCCCGTCAGGTACCGTTCAACACATATTT 1950
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                             68
                                                                                                                                     106 -----ValAlaAlaGlnArgSerProAspLysLysThrCysProMetLysGluGlyAs
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                             48 eGluTyrGlnHisHisLysProProPheThrAsnLeuHisValSerTyrGlnLysTyrPh
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US-11-097-143-18082/c
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APPLICANT: Venter, J. Craug

APPLICANT: et al.

TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLEIC ACID

TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLEIC ACID

TITLE OF INVENTION: ARRAYS, FOR DETECTING EXPRESSION OF 10,000 OR MORE

TITLE OF INVENTION: DROSCHILLA GENES.

TITLE OF INVENTION: DROSCHILLA GENES.

FILE REFERENCE: CLOOOT28

CURRENT APPLICATION NUMBER: 60/160,191

PRIOR FILING DATE: 1999-10-05

PRIOR FILING DATE: 1999-10-10-28

PRIOR PLICATION NUMBER: 60/160,191

PRIOR PLICATION NUMBER: 60/164,769

PRIOR FILING DATE: 1999-11-12

PRIOR FILING DATE: 1999-11-12

PRIOR FILING DATE: 1999-11-2

PRIOR FILING DATE: 2000-01-12

PRIOR FILING DATE: 2000-01-12

PRIOR FILING DATE: 2000-01-12

PRIOR FILING DATE: 2000-01-12

PRIOR FILING DATE: 2000-01-12

PRIOR FILING DATE: 2000-01-12

PRIOR FILING DATE: 2000-03-23

NUMBER OF SEQ ID NOS: 43008

SOFTWARE: Fast-SEQ for Windows Version 4.0

SEQ ID NO 18082

LENGTH: NANA
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US-09-918-995-19437
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LENGTH: 479
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nProPheGlyProPheTrpAspGlnPheHisValSerPheAsnLysSerGluLeuPheTh 143
                   261 TCCTTTTGGTCCCTTTTGGGACACTTTTCACATAGACTTTGTGGGGTCAGAGTTCTATGC 202
                                                             143 rGlylleSerPheSerAlaSerTyrArgGluGln------TrpSerGlnArgPheSe 160
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                                                                                                                       160 rProLysGluHisProValLeuAlaLeuProGlyAlaProAlaGlnPheProValLeuGl
                                                                                                                                             PAPLICANT: ROSEN et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PC006
CURRENT APPLICATION NUMBER: US/09/764,891
CURRENT FILING DATE: 2001-01-17
Prior application data removed - consult PALM or file wrapper NUMBER OF SEQ ID NOS: 10231
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 6032
LENGTH: 10331
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Best Local Similarity:
Query Match:
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US-11-097-143-18169/C

Sequence 18169, Application US/11097143

Publication No. US20050208558A1

GENERAL INFORMATION:
TITLE OF INVENTION: BERCATION KIT, SUCH AS NUCLEIC ACID
TITLE OF INVENTION: ARRAYS, FOR DETECTING EXPRESSION OF 10,000 OR W
TITLE OF INVENTION: DROSOPHILA GENES.
FILE REPREMENT SPLICATION NUMBER: US/11/097,143

CURRENT APPLICATION NUMBER: 06/157,832

PRIOR FILING DATE: 1999-10-05

PRIOR FILING DATE: 1999-10-05

PRIOR FILING DATE: 1999-10-19

PRIOR FILING DATE: 1999-10-28

PRIOR APPLICATION NUMBER: 60/161,932

PRIOR PLICATION NUMBER: 60/161,932

PRIOR PLICATION NUMBER: 60/161,932

PRIOR PLICATION NUMBER: 60/164,769

PRIOR APPLICATION NUMBER: 60/164,769

PRIOR PLICATION NUMBER: 60/175,693

PRIOR PLICATION NUMBER: 60/175,693

PRIOR APPLICATION NUMBER: 60/175,693

PRIOR PLILNG DATE: 1999-11-12

PRIOR PLILNG DATE: 2000-01-12

PRIOR APPLICATION NUMBER: 60/175,693

PRIOR PLILNG DATE: 2000-01-12
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                                                                                 APPLICANT: Hyseq, Inc.
TITLE OF INVENTION: NOVEL NUCLEIC ACID SEQUENCES OBTAINED TITLE OF INVENTION: FROM VARIOUS CDNA LIBRARIES FILE REPRENCE: 20411-756
CURRENT APPLICATION NUMBER: US/09/918, 995
CURRENT FILING DATE: 2001-07-30
PRIOR PHILING DATE: 1999-01-20
NUMBER OF SEQ ID NOS: 38054
SOFTWARE: FastSEQ for Windows Version 3.0
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Mismatches:
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Matches:
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Sequence 19437, Application US/09918995
Publication No. US20030073623A1
GENERAL INFORMATION:
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ORGANISM: Homo sapiens
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Best Local Similarity:
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3159 TCAGACTCCAATCACATGGTGAACTAAACACGGCCCTTAGTCGCATGGGCATCAGT 3100
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                                                                                                                                                                                                                                                                                                                                                                                  195 MetValLysThrGlyGluAlaGlnI]eHisAlaHisLeuValArg---ProTyrValGly 213
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                                                                                                                                                          Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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PRIOR FILING DATE: 2000-02-24
PRIOR APPLICATION WUMBER: 60/191,637
PRIOR PILING DATE: 2000-03-23
NUMBER OF SEQ ID NOS: 43008
SOFTWARE: FastSEQ for Windows Version 4.0
INSTH. 3567
TYPE: DNA
TYPE: DNA
ORGANISM: DROSOPHILA
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GenCore version 5.1.6  Copyright (c) 1993 - 2005 Compugen Ltd.  OM protein - nucleic search, using frame_plus_p2n model  Run on: October 26, 2005, 05:59:38; Search time 6375.13 Seconds (without alignments) (2179.320 Million cell updates/sec	SSFFGMDRPPKLI	Searched: 34239544 seqs, 19032134700 residues  Total number of hits satisfying chosen parameters: 68479088  Minimum DB seq length: 0  Maximum DB seq length: 2000000000  Post-processing: Minimum Match 00*  Listing first 45 summaries	line par rame+ p2 1/USPTO -QFMT=fa its -STA pto -NOR 09774954 -LAKGEQ EGUT=120	Database: EST:*  1: gb_est1:* 2: gp_est2:* 3: gb_htc:* 4: gb_est3:* 5: gb_est5:* 6: gb_est5:* 8: gb_gsst6:* 9: gb_gsst6:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_gsst1:* 9: gb_	\$core Match Length DB 1832 92.6 3611 31829 92.4 2616 3 1855 77.1 1141 5 1356 68.5 801 5 1359 67.7 988 5

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AKOB1059
Mus musculus 10 days neonate cerebellum cDNA, RIKEN full-length enriched library, clone:B930076G19 product:protein c-fucosyltransferase 1, full insert sequence.

AKOB1059 IGI:26099647
Mus musculus (house mouse)
Mus musculus (house mouse)
EDNARYOEA; Metazoa; Chordata; Craniata; Euteleostomi; Enkaryota; Metazoa; Chordata; Sciurognathi; Muridae; Musn.
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Analysis of the mouse transcriptome based on functional annotation of 60, 770 full-1-ength cDNAs
Nature 420, 563-573 (2002)
6 (bases 1 to 3611)
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Nature 409, 685-690 (2001)
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Carninci, P. and Hayashizaki, Y.
High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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AKO44629 26.16 bp mRNA linear HTC 03-APR-2004 Mus musculus adult retina cDNA, RIKEN full-length enriched library, clone:A930028F21 product:protein O-fucosyltransferase 1, full insert sequence.
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/dev stage="10 days neonate"
                                                                                                                                                                                                                                                         Submitted (16-APR-2002) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Vokohama Institute; 1-7-22 Subhiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:Genome-res@gsc.riken.jp, URL:http://genome-gsc.riken.jp, Tel:81-45-503-9222,
                                                                                                                                                                                                                                                                                                                                                                                                     cDNA library was prepared and sequenced in Mouse Genome Bncyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to
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Please visit our web site for further details.
Please visit our web site for further details.
URL:http://genome.gsc.riken.jp/.
URL:http://fantom.gsc.riken.jp/.
Location/Qualifiers
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/organism="Mus_musculus"
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Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNs.

AL Mature 420, 563-573 (2002)

G (bases 1 to 2616)

Adachi, A. Aizawa, K., Akimura, T., Arakawa, T., Bono, H., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Harack, T., Hirozane, T., Hayashida, K., Hayatsu, N., Hiramoto, K., Hiraoka, T., Hirozane, T., Hori, F., Imotani, K., Ishi, Y., Itoh, M., Kagawa, I., Kasukawa, T., Kath, H., Kawai, J., Kojima, Y., Kondo, S., Konno, H., Kouta, M., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Ohasto, N., Okazaki, Y., Saito, R., Saitch, H., Sakai, C., Sakai, K., Sakazume, N., Sano, H., Sasaki, D., Shibata, K., Shinagawa, A., Shiraki, T., Tagawa, T., Tagawa, M., Tagawa, A., Takahsahi, P., Takaku-Akahira, S., Sano, H., Sasaki, D., Shibata, K., Shinagawa, A., Shiraki, T., Takaku-Akahira, S., Sapabe, Y., Tanaka, T., Tonaru, A., Toya, T., Yasunishi, A., Takahsahi, Y., Takaku-Akahira, S., Submitted (16-JUL-2001) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research Group, RIKEN Genome, Tsurumi-Ku, Yokohama, Kanagawa 230-0045, Japan (E-maligenome-rese@gsc.riken.jp, Kanagawa 230-0045, Japan (E-maligenome-rese@gsc.riken.jp, Faxial-45-503-9216, Faxial-45-503-9216, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45-503-9221, Faxial-45
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Division of Experimental Animal Research in Riken contributed to prepare mouse tissues.
Retina RNA was provided by Dr. Stefano Gustincich (Department of Neurobiology, Harvard Medical School, 220 Longwood Ave., Boston, Noisi, USA) whose assistance is gratefully acknowledged. Please URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/.
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FUNCTIONAL annotation of a full-length mouse cDNA collection Nature 409, 685-690 (2001)
                                                                                                                       Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K., Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new g Genome Res. 10 (10), 1617-1630 (2000)
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Mech. Enzymol. 303, 19-44 (1999)
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Contact: Genoscope
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Genoscope - Centre National de Sequencage
Email: seqrefégenoscope.cns.fr, Web : www.genoscope.cns.fr
1st strand cDNA was primed with a NotI-oligo(dT) primer. Five prime
end enriched, double-strand cDNA was digested with Not I and cloned
into the Not I and EcoR V sites of the pCMVSPORT 6 vector. Library
was normalized. Library was constructed by Life Technologies, a
division of Invitrogen. This sequence belongs to sequence cluster
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Li, W.B., Gruber, C., Jessee, J. and Polayes, D. Unpublished (2001)
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Mus musculus (house mouse)

Mus musculus

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Bukaryota; Metazoa; Chordata; Sciurognathi; Muridae; Murinae; Mus.

I (bases 1 to 947)

National Institutes of Health, Mammalian Gene Collection (MGC)

National Institutes of Health, Mammalian Gene Collection (MGC)

Onpublished (1999)

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CDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima

Bonaldo, Ph.D.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:

http://mage.llnl.gov
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                  243 TCCTTCAGTGCCTCCTACAAAGACCAGTGGATCCAAAGATTTTCTCCAAAGGAACATCCA
                                                                         ValLeuAlaLeuProGlyAlaProAlaGlnPheProValLeuGluGluHisArgProLeu
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High quality sequence stop: 919
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1 (Dases 1 to 801)

1 (Dases 1 to 801)

2 Uenishi,H., Eguchi,T., Suzuki,K., Sawazaki,T., Toki,D., Shinkai,H., Okumura,N., Hamaaima,N. and Awata,T.

PEDE (Pig EST Data Explorer): construction of a database for ESTs derived from porcine full-length CDNA libraries

Nucleic Acida Res. 32 (1), D484-D488 (2004)

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EST project with full-length enriched cDNA libraries carried out in Animal Genome Research Program (Japan) by National Institute of Agrobiological Sciences and STAFF-Institute

Single pass sequencing of clones derived from oligo-capped CDNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vector sequences were eliminated by RepeatMasker version 2002/07/13 and crossmatch version 0.990319

Low quality bases were trimmed based on the quality values.

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Sus scrofa"
/mol_type="mRNA"
/db xref="taxon:9823"
/clone="covRol10034G09"
/tissue_type="adult"
/dev_stage="adult"
/clone_lib="full-length enriched swine cDNA library, adult
                                                                              BP144264 inll-length enriched swine cDNA library, adult ovary Sus scrofa cDNA clone OVR010034G09 5', mRNA sequence.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

I (bases 1 to 88)

NIH-MGC http://mgc.nci.nih.gov/.

NIH-MGC http://mgc.nci.nih.gov/.

NIH-MGC http://mgc.nci.nih.gov/.

NIH-MGC http://mgc.nci.nih.gov/.

NIH-MGC http://mgc.nci.nih.gov/.

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/organism="Musus"
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this is a NIH_MGC Library."
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Tissue Procurement: Dr. David Rowe cDNA Library Preparation: Invitrogen Corp cDNA Library Preparation: Invitrogen Corp cDNA Library Arrayed by: The I.M.A.G.E. COMSORTIUM (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can lfound through the I.M.A.G.E. Consortium/LLNL at: http://image.lln.gov row: j column: 24 Plate: LLAMI4047 row: j column: 24 High quality sequence stop: 702.
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          147 TTTGGGAACCAGGCCGATCACTTCTGGGCTCTCTGGCATTTGCAAAGCTGCTAAAACGT
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SerleuGluAspPheMetGluLysLeuAlaProThrHisTrpProProGluLysArgVal 100

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Eukaryota; Metasca; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.

Eli,W.B., Gruber,C., Jessee,J. and Polayes,D.

Full.-length cDNA libraries and normalization

On May 5, 2003 this sequence version replaced gi:30377055.

Contact: Genoscope

Contract: Genoscope - Centre National de Sequencage

Contact: Genoscope - Centre National de Sequencage

Contact: Genoscope - Centre National de Sequencage

Email: segref@genoscope.ons.fr, Meb: www.genoscope.ons.fr

Ist strand CDNA was primed with a NotI-oligo(dT) primer. Five prime end enriched, double-strand CDNA was dispessed with Not I and cloned into the Not I and Ecox V sites of the pCMVSPORT 6 vector. Library was normalized. Library was constructed by Life Technologies, a division of Invitrogen. This sequence belongs to sequence cluster For more information about this cluster. see http://www.genoscope.cns.fr/cdna?s=CSOAJO08DCO6QPI&C=9980.f.

Location/Qualifiers

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BQ936634 915 bp mRNA linear EST 21-AUG-2002
AGENCOURT 10032510 NCI CGAP Mam2 Mus musculus cDNA clone
IMAGE:6485896 5', mRNA sequence.
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Mus musculus
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus.
I (bases 1 to 915)
Nitional Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: Gapba: "Femail.nih.gov
Tissue Procurement: Gilbert Smith, Ph.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLML)
DNA Sequencing by: Agencourt Bioscience Corporation
                                                                                                                      BQ936634.1 GI:22352017
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TITLE
JOURNAL
COMMENT
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1 MetProAlaGlySerTrpAspProAlaGlyTyrLeuLeuTyrCysProCysMetGlyArg 20

US-09-774-954-2 (1-365) x BX345989 (1-841)

Percent Similarity: Best Local Similarity: Query Match: DB:

812

875

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Homo sapiens (Human)

Homo sapiens

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 898)

1 (Lases 1 to 898)

1 (Lases 1 to 808)

2 ii, W.B., Gruber, C., Jessee, J. and Polayes, D.

1 (Pull-length cDNA libraries and normalization

1 (Dupublished (2001)

1 (Danact: Genoscope Centre National de Sequencage

2 rue Gaston Cremieux, CP 5706 - 91057 EVRY cedex - FRANCE

Email: seqref@genoscope.cns.fr, Web: www.genoscope.cns.fr

1 st strand cDNA was primed with a NotI-oligo(dT) primer. Five prime

and enriched, double-strand cDNA was digested with Not I and cloned

into the Not I and EcoRV sites of the pCMVSPORT 6 vector. Library

was not normalized. Library was constructed by Life Technologies, a

division of Invitrogen.

This sequence belongs to sequence cluster 9980.f

For more information about this cluster, see

http://www.genoscope.cns.fr/cdna?s=CSOAM014AF06QP1&c=9980.f.
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LysAsnAlaCysAlaMetLeuLysAspGlyThrAlaGlySerHisPheMetAlaSerPro
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                  Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
Plate: LLANLORO row: g column: 17
High quality sequence stop: 698.
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                                                                                                                                                                    /sex="male"
/lab host="Electromax DH10B"
/lab host="Electromax DH10B"
/clone lib="fatze MNLV"
/note-organ: liver; Vector: pDONR 222; Site_l: BsrG
Site_2: BsrG I; Created from CloneMiner cDNA_Library
Construction kit (catalog #18249-029)"
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Matches:
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                                                                                                     /organism="Macaca nemestrina"
|mol_type="mRNA"
|strain="Indian"
|db_xref="texon:9545"
|clone="IBIUW:29960"
FORWARD: CCCTCACTAAAGGGAACAAA
BACKAARD: CACTATAGGGGGAATGGGTA
Insert Length: 942 Std Error: 0.00
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BRACACA nemestrina (pig-tailed macaque)

MACACA nemestrina

BLAKATVOELS, Metacaca; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;

Cercopithecinae; Macaca.

E I (bases I to 93.M., Korth,M., Iadonato,S.P. and Magness,C.L.

Large-scale Rheaus Macaque cDNA Sequencing

L Unpublished (2203)

Contact: C. Magness

Illumigen Biosciences Inc.

2203 Airport May S, Suite 450, Seattle, WA 98134, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CO774833 942 bp mRNA linear EST 04-AUG-2004 ILLUMIGEN MCQ 51950 Katze MNLV Macaca nemestrina cDNA clone IBLUM:29960 5, similar to Bases 7 to 852 highly similar to human POFUTI (Hs.176292), mRNA sequence. CO774833. GI:50976096
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Email: cmagness@illumigen.com
Sequenced on 2004.07.21. 611 020 bases. Library Preparation: Prof.
Michael Katze Lab at University of Washington DNA Sequencing:
Illumigen Biosciences Inc. For further information, see
http://www.macaque.org
                                                                                                                       379 AGCTTGGAGGATTTCATGGAGAAGCTGGCACCCACCCACTGGCCCCCTGAGAAGCGGGG 438
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Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC

    .808
    /organism="Homo sapiens"
    /mol_type="mRNA"

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1 (Dases 1 to 719)
Ansorge, W., Wirkner, U., Mewes, W., Weil, B. and Wiemann, S.
EST (Ansorge, W., Wirkner, U., Mewes, H.W., Weil, B. and Wiemann, S.)
Unpublished (1999)
Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 5' sequence of the clone insert
Clone from 5. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKEZ); Email s.wiemann@dkfz- heidelberg.de;
sequenced by EMBL (European Molecular Biology Laboratories,
Heidelberg/Germany) within the cDNA sequencing consortium of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 GAAGGAAACCCTTTGGCCCATTCTGGGATCAGTTTCATGTGAGTTTCAACAAGTCGGAG
                                                                          220 eraspTrpLysAsnAlaCysAlaMetLeuLysAspGlyThrAlaGlySerHisPheMetA
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No 81 sequence available.

This clone (DKFZg7620115) is available at the RZPD in Berlin.

This clone (DKFZg7620115) is available at the RZPD in Berlin.

Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 1405;

Berlin-Charlottenburg, GERWANY; Email: clone@rzpd.de.

Location/Qualifiers
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/note="Vector: pSport1; Site_1: Not1; Site_2:
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mol_type="mRNN"
db xref="taxon:966"
/clone="DKFZp76200115"
/tissue_type="melanoma (Me
dev stage="adult"
/lab_host="DH10B"
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602705255F1 NIH_MGC_43 Homo sapiens CDNA clone IMAGE:4842061 5', mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      321 LeuglyglnalaAspHisPhelleGlyAsnCysValSerSerPheThrAlaPheValLys 340
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     602 CTCGGCCAAGCCGACCACTTTATTGGCAACTGTGTCTCCCCCCCTCCTTCACTGCCTTTGTGAAG 661
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Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
1 (bases 1 to 808)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuProAspLeuLysGluIleGlnArgAlaValLysLeuTrpValArgSerLeuAspAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             482 CAGICGGICTACGITACTIGATICCCAGAGTTATGIGCCTGAGCTCCAACAGCTCTTC
                                            AspTrpLysAsnAlaCysAlaMetLeuLysAspGlyThrAlaGlySerHisPheMetAla
                                                                                                                                                                                                                                                                                                                              SerProGlnCysValGlyTyrSerArgSerThrAlaAlaProLeuThrMetThrMetCys
                                                                                                                                                                                                                                                                                                                                                                                                                           422 CIGCCIGACCIGAAGGAGATCCAGAGGGCTGIGAAGCICTGGGTGAGGTCGCTGGAGGCC
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                                                                                               GluHisArgProLeuGlnLysTyrMetValTrpSerAspGluMetValLysThrGlyGlu
                                                                                                                                                                                                                         242 GCCCAGATTCATGCCCACCTTGTCCGGCCCTATGTGGGCATTCATCTGCGCATTGGCTTTGCTT
                                                                                                                                                                                               AlaGlnIleHisAlaHisLeuValArgProTyrValGlyIleHisLeuArgIleGlySer
ProLygGluHisProValLeuAlaLeuProGlyAlaProAlaGlnPheProValLeuGlu
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National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
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234
1
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Matches: 2
Conservative: 1
Mismatches: 5
Indels: 0
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Best Local Similarity: 9
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Cy 240 Ala 240
Db 801 GCT 803
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Search completed: October 26, 2005, 15:17:12 Job time : 6398.13 secs

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GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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OM protein - protein search, using sw model

October 25, 2005, 15:21:43; Search time 45.7187 Seconds (without alignments) 768.157 Million cell updates/sec Run on:

US-09-774-954-2 1979 1 MPAGSWDPAGYLLYCPCMGR......QGRPSSFFGMDRPPKLRDEF 365 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283416 seqs, 96216763 residues Searched: Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

PIR 79:*
1: Dirl:*
2: Dir2:*
3: Dir3:*
4: Dir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Description		hypothetical prote	₽	hypothetical prote	_	hypothetical prote	reverse transcript			mucin A, tracheal	hypothetical prote		rin	p97 protein - Toxo	branched-chain-ami	transforming prote	nitrate reductase	~	hypothetical prote		hypothetical prote	parasporal crystal	cryptic nitrate re	cryptic nitrate re	0	hypothetical prote	hypothetical prote	_	_	probable transamin
ţ		T15511	A86309	T14795	S07624	T37509	T31657	G83690	T31462	I46225	F59099	S37459	T38692	T03098	T40454	T04869	G64899	D95211	F91080	G85925	T29439	S00944	G90887	B85730	839599	AI2421	T47393	JC4655	9	E69168
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Query	March	27.4	5.8	5.3	5.1	4.9	4.8	4.7	4.6	4.6	4.5	4.5	4.5	4.5	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	•	4.3	4.3	4.3	4.3
9	30016	541.5	114			96.5			91.5	90.5	90	89.5	89	88.5	88	88	87.5	87	87	87	86.5	9	86.5	9	٠	5	85	82	82	84.5
Result	. Con	н	7	3	4	S	9	7	80	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

395 -LTKEICSPSKQQI-----LEAHRQEPDD 420

314 AQVDLYILGQADHFIGNCVSSFTAFVKRERDLQG---RPSSFFGM 355 

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RESULT 2 A86309 F20D33.3 protein - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress)

254 PLIMIMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPEV 313 ::: | |:| :| || || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 334 || 335 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336 || 336

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polyketide synthas hypothetical prote K06H7.8 protein -	protein F1K23.18 [ testis-abundant fi	transcription regu trnpolition regu	hypothetical prote hypothetical prote	respiratory nitrat type II site-speci	unknown protein 16 ABC transporter (p	hypothetical prote lipopolysaccharide
S43048 AE0075 S44848	E86411 JC7387	T33758 AH2479	264096 S67452 AB2088	AB0672 JH0635	F96713 AB1293	T20226 B81037
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31	0 0 0 1 0 4 1	3.6	3 3 8 7 3 9 8 7	4 0 4 1	4 4 5 8	4 4 4 5

## ALIGNMENTS

RESULT 1 T15511 hypothetical protein C15C7.1 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999 C;Accession: T1551 R;Leimbach, D. R;Leimbach, D. R;Deimbach, D. R;Deimbach, D. R;Deimpach, D	A; Reference number: 218363 A; Reference number: 218363 A; Accession: T15511 A; Status: preliminary; translated from GB/EMBL/DDBJ A; Molecule type: DNA A; Residues: 1-474 < LEI>A; Residues: 1-474 < LEI>A; Residues: 1-674 < LEI>A; Residues: 1-674 < LEI>A; Residues: 1-674 < LEI>A; Residues: 1-674 < LEI>A; Residues: 1-674 < LEI>A; Residues: 1-674 < LEI A; Genetics: 1-67/2: 106/2: 166/1; 202/3; 235/3; 364/3; 410/3	Query Match 27.4%; Score 541.5; DB 2; Length 474; Best Local Similarity 36.2%; Pred. No. 1.9e-38; Matches 125; Conservative 60; Mismatches 107; Indels 53; Gaps 11;	Qy 19 GRFGNQADHFLGSLAFAKLINRTLAVPPWIEXQHHKPPFTNLHVSYQKYPKILEPLQAYHR 78	Oy 79 VISLEDEMBKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMKEGNPFGPFWDQFHVSFNK 138	QY 139 SELFTGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLEEHRPLQKYMVWSD 193	QY 194 EMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFWASPQCVGYSRSTAA 253

CESP: C15C7.

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160

91

-PLOKYMVWSDEMVKTGEAQIHAHL 207

-----QDVPSLEGA 315

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acylaminoacyl-peptidase (EC 3.4.19.1) - rat
acylaminoacyl-peptidase (EC 3.4.19.1) - rat
acylaminoacyl-peptidase (EC 3.4.19.1) - rat
N;Alternate names: acyl-peptide hydrolase; acylamino-acid-releasing enzyme
N;Alternate names: acyl-peptide hydrolase; acylamino-acid-releasing enzyme
C;Species: Rattus norvegicus (Norway rat)
C;Species: Rattus norvegicus (Norway rat)
C;Accession: A3706; 807624
R;Kobayashi, K.; Lin, L.W.; Yeadon, J.E.; Klickstein, L.B.; Smith, J.A.
J;Bil. Chem. 264, 8892-8899, 1989
J;Bil. Chem. 264, 8892-8899, 1989
A;Attle: Cloning and sequence analysis of a rat liver cDNA encoding acyl-peptide hydrolas
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Accession: A3706
A;Mills sequence, including the amino end of the mature protein, were deter
A;Moleci parts of this sequence, including the amino end of the mature protein, were deter
B;Lin, L.W.; Lee, F.J.S.; Smith, J.A.
Nucleic Acids Res: 17, 4397-4400, 1989
A;Rtle: Structural organization of the rat acyl-peptide hydrolase gene.
A;Reference number: S07624; MUD: 89296508; PMID: 2578023
A;Reference number: S07624; MUD: 89296508; PMID: 2578023
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C; Superfemily: acylaminoacyl-peptidase
C; Keywords: blocked amino end; homotetramer; hydrolase; omega peptidase
F; 1/Modified site: blocked amino end (Met) (probably acetylated) #status experimental
F; 118, 291, 443 Modified site: lysine derivative (Lys) #status experimental
F; 587, 675, 707/Active site: Ser, Asp, His #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 208 VRPYVGIHLRIGSDWKNACAMLKDGTAGSHFWASPQCVGYSRSTAAPLTMTMCLPDLKEI 267
                                                                                                                                                                                                                                                                          92 THWPPEKRVAYCFEVAAORSPDKKTCPMKEGN----PFGPFWDOFHVSFNKSELFTG-- 144
                                                                                             -----YLLY--CPCMGRFGNOADHFLGSLAFAK 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30 GSLAFAKLLN-----RTLAVPPWIEYQHHKPPFTNLHVSYQKYFKLEPLQAYH--
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22.9%; Pred. No. 1.6;
ative 32; Mismatches 101; Indels 139; Gaps
                                                                                                                                                         16 AVSWPPASASGQEFWPGQSAADILSGAASRRRYLLYDVNPPEG-FNLRRDVYIRIASLLK
                                                                                                                                                                                                                             37 LIANT----LAVPPWIEYQH-HKPPFTNLHVSYQKYFKLEPLQAYHRVISLEDFWEKLAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183 WGYEETRGLNVSCLSVQGSASIVAPLILIRNTSARSVMLDRAENLLHDHYGGKEYWDTRRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  . Similarity 21.1%; Pred. No. 0.32;
87; Conservative 42; Mismatches 126; Indels 157; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    268 QRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPEVAQVDLY 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             288 GGPYLGVHLR------RKDFIWGHR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    161 PKEHPVLALPGAPAQFPVLEEHR--------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    145 -------ISFSASY------
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           Best Local Similarity
Matches 87; Conserv
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Best Local S
Matches 81
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C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: A86309
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Cinin, C.W.; Chung, W.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hudres, B.; Huizar, L.
ansen, N.F.; Hudres, B.; Huizar, L.
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.
C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, R.; Rooney, T.; Rowaley, D.; Sakano, H.; Shim, P.; Southwick, A.M.; Sun, H.; Tallon, A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A;Tile: Sequence and analysis of chromosome i of the plant Arabidopsis.
A;Accession: A86109
A;Accession: A86109
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A;Accession: A86109
A;Accession: A861
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               258 ---YDKVIDIERINTCLGRTVVISFDQFKE-----IDKKNNAHI-------DRFIC 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .---- 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----FSPKEHPVLALPGAPAQFPVLEEHRPLQKYMVWSDEMVKTGEAQIHAHLV 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              209 RPYVGIHLR---IGSDWKNACA----MLKDGTAGSHFWASPQ----CVGYSRSTAAPLIM 257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          407 KNPISLHLRRHGFLKFWLQNLAIVAIMYLDSVAHTQLIGIPEHLSTCNAKSPS----- 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          258 IMCLPDLKEIQRAVKLWVRSLDAQSVYVATD-SESYVPELQQLFKGKVKVVSL---KPE- 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       460 --CFYPIPQAADCISRMVERANAPVIYLSTDAAESETGLLQSLVVVDGKVVPLVKRPPQN 517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----- 257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6 WDP-AGYLLYCPCMGRFGNQADHFL---GSLAFAKLINRTLAVP-PWIEYQHHKPPFTNL 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----VAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRPS 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hypochetical protein DKFZp434E171.1 - human (fragment)
C;Species: Homo sapiens (man)
C;Species: 20-Sep1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C;Accession: T14795
R;Poustka, A.; Klein, M.; Mewes, H.W.; Gassenhuber, J.; Wiemann, S.
aubmitted to the Protein Sequence Database, August 1999
A;Reference number: Z18183
A;Accession: T14795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
5.8%; Score 114; DB 2; Length 594;
Best Local Similarity 20.1%; Pred. No. 0.1;
Matches 84; Conservative 50; Mismatches 160; Indels 124;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        209 WKPRPDKFLFAICLS--GQMSNHLICLEKHMFFAALLDRVLVIPSSKFDYQ--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          118 PMKEGNPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQR------
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A;Experimental source: adult testis; clone DKF2p434B171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 2;
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A, Molecule type: mRNA
A, Residues: 1-383 <POU>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
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RiTakami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Fuji, F.; Hiran Nucleic Acids Res. 28, 4317-4331, 2000

A.Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans and c. A; Reference number: A83650; MUD:20512582; PMID:11058132

A.Accession: G83690

A.Status: preliminary

A; Molecule type: DNA

A, Residues: 1-458 < STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: UNIPROT:Q9KFY9; GB:AP001508; GB:BA000004; NID:g10172890; PIDN:BAB0400:A;Experimental source: strain C-125 C;Genetics: A;Genetics: A;Gene: BH0327
                               A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1209 <BIR>A;Cross-references: UNIPROT:P91581; EMBL:Z83760; NID:e1014349; PID:e289993; PIDN:CAB06047; C;Genetics:
A;Cross-references: UNIPROT:P91581; EMBL:Z83760; NID:e1014349; PID:e289993; PIDN:CAB06047; A;Note: COS41.3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      196 VKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFWASPQCVGYSRSTAAPL 255
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             256 IMTMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPEVAQ 315
                                                                                                                                                                                                                                                                                                                      -AQFPVLEEHRPLQKYMVW 191
                                                                                                                                                                                                                                                                                                                                                                                                                     SDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFWASPQCVGYSRST 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAPLIMIMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKV---KVVS 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ------VVEAVRKWSHFLKGKSFTLVTDQRSVSFMFDQRNRGKIKNSKILM 822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hypochetical protein BH0327 [imported] - Bacillus halodurans (strain C-125) C;Species: Bacillus halodurans C;Date: 01-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 09-Jul-2004 C;Accession: G83690 R;Takami, H.; Nakasone, K.; Takaki, Y.; Maeno. G.: Sasaki R. Maeni N. F.
                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                    59;
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                                                                                                                                                                                                               Length 1209;
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4.7%; Score 93.5; DB 2; Length 458;
Best Local Similarity 18.3%; Pred. No. 4.3;
Matches 51; Conservative 50; Mismatches 89; Indels 8
                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    739 SDYAI----AAVLSOSGRPVAYMSRTLNTCERNYPAIEKEATA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               309 LKPEVAQVDLYILGQ--ADHFIGNCVSSFTAFVKRERDLQ 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | : :: | | : | | | : | 427 YQKYPMKES-----TSAVEAFIKKGGSIWERALPEKP 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        316 VDLYILGQADHFIGNCVSSFTAFVKR-----ERDLQGRP 349
                                                                                                                                                                                                                                                                      83;
                                                                                                                                                                                                                       DB 2;
                                                                                                                                                                                                                     Query Match
4.8%; Score 94.5; D
Best Local Similarity 20.0%; Pred. No. 12;
Matches 44; Conservative 34; Mismatches
                                                                                                                                                                                                                                                                                                                           150 SYREQWSQRFSPKEHPVLALPGAP----
Reference number: Z21049
                       A; Accession: T31657
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A;Residues: 1-432 <CON>
A;Cross-references: UNIPROT: 042654; EMBL: AL009197; PIDN: CAA15728.1; GSPDB: GN00066; SPDB: A;Experimental source: strain 972h-; cosmid c10F6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               104 YVFHTFSGVYLKIGYEMDESGFCLPDQVYHLIDNHSCIQTAVSHLLRNHQALFKYLCDYL 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              209 VQKLAVQKKIGNIRMYLVNPRDIFALGSTCNCIVVSSSNFQSYVQLRKPLLENNLPYEID 268
                                                                                                                                                                                                                                          563 VQFAVEQVLQEEHFDARRVAL----MGGSHGGFLSCHLIGQYPETYSACIARNPVINIAS 618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EHPVLALPGAPAQFPVLEEHRPLQKYMVW---SDEMVKTGEAQIH------A 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RSTAAPLIMIMCLPDL----KEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGK 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VKVVSLKPEVAQVDLYILGQADHF-IG---NCV----SSFTAFVKRERDL--QGRPSSFF 353
                                  217 RIGS----DWKNACAMLKDGTAGSHFMASPQCVGYSRSTAAPLTMTMCLPDLKEIQRAVK 272
  -RVISLEDFMEKLAPTHWPP-EKRVAYC---FE---VAAORSPDKKTCP---MKEGNPFG 126
                                                                                                                                                                                                  174 AQFPV----LEEHRPLQKYMVWSDEMVKTGEAQIHAHLV-------RPYVGIHL 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  lypothetical protein SPAC10F6.15 - fission yeast (Schizosaccharomyces pombe)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Species: Ciona intestinalis
C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 09-Jul-2004
C;Accession: T3165,
R;Bird, A.P.; Clark, V.; Jones, S.J.; Leitgeb, S.; Dobson, R.; Tweedie, S.
R;Bird, A.P.; Clark, Data Library, December 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Species: Schizosaccharomyces pombe
Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            206 HLVRPYVGIHLRIGSDWKNACAMLKD------GTAGSHFMASPQCV----GYS
                                                                                                                                                                                                                                                                                                                                           619 MMGSTDIPDW----CMVETG------FPYSNS-----CLPDL-----N
                                                                                                   127 PF---WDQFHVSFNKSELFTGISFS---ASYREQWSQRFSPKEHPVLALPG-----AP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      65; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                          273 LWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPEVAQVDLYILGQAD 325
                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Accession: T37509
R;Connor, R.; Churcher, C.M.; Barrell, B.G.; Rajandream, M.A.; Wood, V. submitted to the EMBL Data Library, November 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 432;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             164 RSGEFPLTVLIHHVMLYQYYPKSLQEA--LWA----AVEHYVNNSGEAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   reverse transcriptase homolog - sea squirt (Ciona intestinalis)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Reference number: 221719
A;Accession: T37509
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
4.9%; Score 96.5; Di
Best Local Similarity 21.3%; Pred. No. 2.2;
Matches 52; Conservative 47; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                          : | | | |
647 VWEEMLD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Gene: SPDB:SPAC10F6.15
A;Map position: 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           354 GMDR 357
                                               165 VRVL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              163
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Matches   58;   Conservative   29;   Mismatches   75;   Indels   127;   Gaps   14;		1
RESULT 8  T31462 probable magnesium chelatase (EC 4.99.1) chain H BchH - Heliobacillus mobilis C;Species: Heliobacillus mobilis C;Species: Heliobacillus mobilis C;Species: Heliobacillus mobilis C;Species: Heliobacillus mobilis C;Species: Heliobacillus mobilis C;Species: Heliobacillus mobilis C;Species: Heliobacillus mobilis C;Species: Heliobacillus mobilis C;Species: Heliobacillus mobilis C;Actors: Natl. Acad. Sci. U.S.A. 95, 14851-14856, 1998 A;Xiong, J.; Inoue, K.; Bauer, C.E. Proc. Natl. Acad. Sci. U.S.A. 95, 14851-14856, 1998 A;Title: Tracking molecular evolution of phocosynthesis by characterization of a major F A;Reference number: Z21036; MID:9961957; PMID:9843979 A;Reference number: Z21036; MID:9961957; PMID:9843979 A;Reference number: Z21036; MID:9961957; PMID:9843979 A;Reference number: Z21036; MID:9961957; PMID:9983820536; PID:93820560; PIDN:AAC8 C;Genetics: A;Genetics: A;Genetics: A;Genetics: C;Genetics: C;Superfamily: Rhodobacter capsulatus magnesium-protoporphyrin O-methyltransferase C;Reywords: lyase	Seek Local Similarity 20.3%; Pred. No. 24;	RESULT 9  RESULT 9  146225  mmcin A, tracheal - dog (fragment) C, Species: Canis lupus familiaris (dog) C, Species: Canis lupus familiaris (dog) C, Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 09-Jul-2004 C, Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 09-Jul-2004 C, Species: Canis PC1174 #16225 R, Shankar, V.; Tan, S.; Gilmore, M.S.; Sachdev, G.P. Biochem. Biophys. Res. Commun. 189, 988-964, 1992 A, Fiele Molecular cloning of the carboxy terminus of a canine tracheobronchial mucin. A, Reference number: PC1174; MUID:93112073; PMID:1282002 A, Residues: 1-445 <sha> A, Molecular type: mRWA A, Residues: 1-445 <sha> A, Molecular type: mRWA A, Residues: 1-445 <sha> A, Forsas - references: UNIPROT:Q01988; GB:L03387; NID:g164025; PIDN:AAA30875.1; PID:g164026 C, Keywords: glycoprocein F;86,207,345/Binding site: carbohydrate (Asn) (covalent) #status predicted Query Match Best Local Similarity 20.1%; Pred. No. 7.4;</sha></sha></sha>

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C;Accession: T03098
R;Matsuura, T.; Kasper, L.
Mol. Biochem. Parasitol. 90, 403-413, 1997
A;Title: Molecular analysis and characterization of a protein involved in the replication A;Reference number: Z14838; MUID:9813555; PMID:9476788
A;Reference number: Z14838; MUID:9813555; PMID:9476788
A;Status: preliminary; translated from GB/EMBL/DDBJ
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A; Residues: 1-877 <MAT>
A; Cross-references: UNIPROT: 015644; EMBL: AF005059; NID: 92581824; PIDN: AAC47857.1; PID: 928
A; Experimental source: strain RH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    392 DPEGWKLYAAHMQRGGRRA--FPGD--FDTWLRIHQAEAKWIEWRRVHSGPLNKELADPE 447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           93 HWP------PEKRVAYC-----FEVAAQRSPDKKTCPMKE--GNPFGPFWDQ 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           621 ENLVRKNVVDVPQSPEDFLQQPDQQKAAATSKWSSW------RRVHRGPLVTVLADK 671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---RPYVGIHLRIG-----SDWKNACAMLKDGTAGSHFMASPQCVGYSRSTAAPLTMT 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEDIADSITSSTFFPVLPQIRPSTPLNLKLRNFIISSSEDSTSPKAK---EFDRPLPSTE 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LRIGSDWKNACAMLKDGTAGSHFMASPQCVGYSRSTAAPL/TWTMCLPDLKEIQRAVKLWV 275
                                                                            324 RPTAEMCLDLE------FCRVSAPADAVASKEEVNKNTDFRVSISYFPSSSSIPDE 373
55 PPFTNLHVSYQKYFKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDK 114
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                                                                                                                                                                                                                                                                                                                                                                    EHPVLALPGAPAOFPVLEEHRP-----LOKYMVWSDEMVKTGEAOIHAHLVRPYVGIH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   p97 protein - Toxoplasma gondii
C;Species: Toxoplasma gondii
C;Date: 24-Mar-1999 #sequence_revision 24-Mar-1999 #text_change 09-Jul-2004
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A;Description: involved in replication of intracellular Toxoplasma gondii
C;Superfamily: Toxoplasma gondii p97 protein
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19.9%; Pred. No. 27;
tive 44; Mismatches 119; Indels 135;
                                                                                                                                                                                    115 KTCPMKEGNPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQ----
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531 DKRENQS--VNSESSKYSP 547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         276 RSLDAQSVYVATDSESYVP 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 19.9%
Matches 74; Conservative
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725 LADPDGWDLYKA 736
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A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-650 cBRO.
A;Kesidues: 1-650 cBRO.
A;Cross-references: UNIPROT:014132; EMBL:Z895568; PIDN:CAB16737.1; GSPDB:GN00066; SPDB:SF
A;Experimental source: strain 972h-; cosmid c3C7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A, Experimental source: strain LA 2157; style tissue A, Cross-references: UMIPROT: Q40245; EMBL: Z26581; NID: 9404333; PIDN: CAA81332.1; PID: 94043 A, Experimental source: strain LA 2157; style tissue A, Note: ubmaitced to the EMBL Data Library, September 1993 A, Note: part of this sequence, including the amino end of the mature protein, was determ A, Note: the source is designated as Solanum peruvianum C; Keywords: angiosperm reproduction; 91ycoprotein F;1-17/Domain: signal sequence (fragment) #status predicted <SIG>F;18-218/Product: self-incompatability 91ycoprotein #status predicted <MAT>F;46,56/Binding site: carbohydrate (Asn) (covalent) #status predicted
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                                                                                               self-incompatability glycoprotein, mutant non-functional allele - Peruvian tomato (fragm
C;Species: Lycopersicon peruvianum (Peruvian tomato)
C;Date: 06-Jan-1995 #sequence_revision 31-Jan-1997 #text_change 09-Jul-2004
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C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 16-Aug-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      122 GNPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVL-- 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EEHRPLOKYMVWSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFM 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62 VSYQKYPKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMKE 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               46 NFTINGLWPD-----DKRVILNNCNF-AKKEDRYTKITDPKKKSEL-----DKRWPQLRY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |: ::| :| |: || :| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: ::| |: :
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140 IPGSTYELDDIERAVKTVSIEVPSLKCIQKP----LGNVELNBIGICLDPEA 196
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R;Brown, D.; Churcher, C.M.; Wood, V.; Barrell, B.G.; Rajandream, M.A.
submitted to the BmBL Data Library, September 1997
A;Reference number: Z21805
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4.5%; Score 89; DB 2; Length 650;
Best Local Similarity 22.3%; Pred. No. 16;
Matches 71; Conservative 50; Mismatches 126; Indels
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transforming protein myb homolog F28A21.180 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Aperies: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 16-Aug-2004
C;Accession: T04869
R;Beran, M; Mueller, M.W.; Muendlein, A.; Felber, R.; Bancroft, I.; Mewes, H.W.; Mayer, abunatted to the Protein Sequence Database, February 1999
A;Reference number: Z15387
A;Recession: T04869
A;Molecule type: DNA
A;Residues: 1-427 <BEV>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             172 APAQFPVLEEHRPLQKYMVWSDEMVKTG-----EAQIHAHLVRPYV----- 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        213 ---GIHLR---IGSDWKNACAMLKDGTAGSHFMASPQCVGYSRSTAAPLTMTMCLPDLKE 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      52 HHKPPFTNLHVSYQKYFKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRS 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               112 PDKKTCPMKEGNPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQRFSPKEHPVLALPG 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    144 RGYSLYIRPTFIGTD--EALGVHHCDNAMLYVIASPVGPYYSSGFKA---VKLCCS---- 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   267 IQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPEVAQVDLYILGQADH 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---LWLYGDEDY 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63 PFGKLC-----FHPASSVFHYGF---ECFEGMK---AFRDE-------KG 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 2; Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 4.4%; Score 88; DB 2; Length 380; Rest Local Similarity 19.6%; Pred. No. 9.9; Matches 67; Conservative 55; Mismatches 121; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 195 -EESVRAWPGGTGHYKL-GGNYAPSVLPQKEAAKKGYAQI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               327 F--IG--NCVSSFTAFVKRERDLQGRPSSFFGMDRPPKLRD 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Superfamily: branched-chain-amino-acid transaminase BAT1 Keywords: aminotransferase; mitochondrion
                                                                                                                                                                                                                                                                                                                                                     C;Genetics:
A;Gene: SPBC428.02c; SPBC582.12c
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84 PFE--HCSYQENMVDFYETKPNLMMHHHFQAVENSYFTRNHHHHQEINLVDEHDDPMDLE 141
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                231 DGTAGS---HFWASPQCVGYSRSTAAPLTWTMCLPDLKEIQRAVKLWVRSLDAQSVYVAT 287
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                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
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A,Cross-references: UNIPROT:Q9S7L2; EMBL:AL035526
A,Experimental source: cultivar Columbia; BAC clone F28A21
C;Genetica:
A;Map position: 4
A;Introns: 226/2; 268/3
A;Introns: P28A213: usp DNA-binding repeat homology
C;Superfamily: myb DNA-binding repeat homology
F;212-263/Domain: myb DNA-binding repeat homology <MYB>
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Sequence 1740, Ap
Sequence 11, Appli
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Sequence 20471, A
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Sequence 8, Appli
Sequence 12, Appl
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1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

6: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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US-08-978-741-8
US-09-333-729A-12
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Listing first 45 summaries
                                                                                                   - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER READBLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: MinPatin (Genentech)

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE MinPatin (Genentech)

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741

APPLICATION: 435

CLASSIFICATION: 435

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/792498

FILING DATE: 39,044

REGISTRATION NUMBER: 39,044

REGISTRATION NUMBER: 91041P1

TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFAX: 650/225-1489

TELEFAX: 650/225-1489

TELEFAX: 650/952-9881

INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                      USCOULT 1

1 Sequence 2, Application US/08978741

1 Sequence 2, Application US/08978741

1 Patent No. 6100076

2 GRMERAL INFORMATION:

1 TILE OF INVENTION:

1 TILE OF INVENTION:

1 TOMBER OF SEQUENCES:

2 CORRESPONDENCE ADDRESS:

3 ADDRESSEE: Genentech, Inc.

5 STREET: 1 DNA Way

5 COUNTRY: USA

6 COUNTRY: USA
US-08-980-071-10
US-08-980-071-12
US-08-980-071-59
US-08-980-071-61
US-08-757-536-4
US-08-757-536-4
US-08-757-536-6
US-08-757-536-8
US-08-757-536-10
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Amino Acid
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Matches 365; Conservative
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US-08-978-741-2
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361 LRDEF 365
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                                                  1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
                                     EGNPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLE
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Best Local Similarity 100.0%; Pred. No. 2.4e-214;
Matches 365; Conservative 0; Mismatches 0; Indels 0
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US-09-333-729A-3
Sequence 3, Application US/09333729A
Fatent No. 6270987
Fatent No. 6270987
FIGNERAL INFORMATION:
APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: OF PROSYLICATION OF PROSYLICATION OF PROSYLICATION OF PROSYLICATION NUMBER: US/09/333,729A
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT FILING DATE: 1999-06-15
FRIOR PILING DATE: 1999-06-15
NUMBER OF SEQ ID NOS: 21
FRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
ENGTH: 365
TYPE: PRT
ORGANISM: Homo Sapien
US-09-333-729A-3
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Best Local Similarity 100.0%; Pred. No. 2.8e-214;
Matches 365; Conservative 0; Mismatches 0; Indels 0.
SEQUENCE 6, Application US/08978741

| Sequence 6, Application US/08978741
| Patent No. 6100076
| GENERAL INFORMATION:
| APPLICANT: Yang Wang, Michael W. Spellman TITLE OF INVENTION: O.-Pucosyltransferase
| NUMBER OF SEQUENCES: 17
| CORRESSEE: Genentech, Inc. STREET: 1 DNA Way
| CITY: South San Francisco CINTER: South San Francisco COUNTRY: USA ZIP: 94080
| CONPUTRY: USA ZIP: 94080
| COMPUTRY: USA ZIP: 94080
| COMPUTRY: THE PC COMPATIBLE OF PRINCE STREET: NOW PREDICATION DATA: APPLICATION NUMBER: US/08/78, 741
| APPLICATION NUMBER: US/08/98, 741
| FILING DATE: 3-E-NO. 6100076-1997 |
| CLASSIFICATION NUMBER: US/08/98, 741
| FILING DATE: 3-E-NO. 6100076-1997 |
| APPLICATION NUMBER: BPICATION: ASE PRINCE APPLICATION NUMBER: BPICATION NUMBER: B
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RESULT 6
US-09-333-729A-13
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Fatent No. 6100076
GENERAL INFORMATION:
TITLE OF INVENTION:
WUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA WAY
CITY: South San Francisco
                                                                                                                  Sequence 7, Application US/0933729A
Patent No. 6270987
GENERAL INFORMATION:
APPLICANT: Wang Yang
APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-Fucosyltransferase
FILE REFERENCE: P1041P1D1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT FILING DATE: 1999-06-15
PRIOR APPLICATION NUMBER: US 08/798,741
PRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
LEMGTH: 397
LEMGTH: 397
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361 LRDEF 365
                             393 LRDEF 397
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61 EDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMKEGNPFGPFWDQFHVSFNKSELF 120
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93.2%; Score 1844; DB 3; 1
Best Local Similarity 100.0%; Pred. No. 3.8e-199;
Matches 343; Conservative 0; Mismatches 0;
     COMPUTER: 15.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Windert
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; Sequence 13, Application US/0933729A
; Patent No. 6270987
; GENERAL INFORMATION:
    APPLICANT: Wang, Yang
; APPLICANT: Spellman, Michael W.;
    TITLE OF INVENTION: O-Fucosyltransferase
; TITLE OF INVENTION: 0-Fucosyltransferase
; TITLE OF INVENTION: 0-Fucosyltransferase
; CURRENT APPLICATION NUMBER: US/09/333,729A
; CURRENT FILING DATE: 1999-06-15
; PRIOR FILING DATE: 1999-06-15
; READR FILING DATE: 1997-11-26
; NUMBER OF SEQ ID NOS: 21
; SEQ ID NO 13
; LENGTH: 343
                                                                                                                                                    CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-No. 6100076-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/792498
FILING DATE: 31
ATTORNEY AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 99,044
RECISTRATION NUMBER: 91041P1
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: 650/225-1489
TELEPRX: 650/925-9881
INPERMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 343 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inc
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260 LFASPQCLGYKNERGA-LYPELCMPSKEAIIRQLKRTIKNVRQTQPDNEIKSVFVASDSN 318
                                                                                                                                                                                                                                                                      APPLICANT: Yang Wang, Michael W. Spellman TITLE OF INVENTION: 0-Pucosyltransferase NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INPORMATION:
TELEPRANE: 650/225-1489
TELEPRAN: 650/952-9881
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                  RESULT 8
US-08-978-741-8
Sequence 8, Application US/08978741
Patent No. 6100076
GENERAL INFORMATION:

GENERAL YANG WANG, Michael W
                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: Genentech, Inc. STREET: 1 DNA Way CITY: South San Francisco STATE: California
                                                                                                    350 SSFFGMDRPPKLRD 363
                                                                                                                                379 SYFWGF---PKEKD 389
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TYPE: Amino Acid
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ZIP: 9408
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Sequence 49211, Application US/09270767
Patent No. 6703491
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
TITLE REFERENCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT PILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: PatentIn Ver. 2.0
LENGTH: 399
TYPE: PRT
                                                                                                                                        83 EDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMKEGNPFGPFWDQFHVSFNKSELF
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                                                                      Length 343;
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42.3%; Score 837; DB 4; Length 399;
Best Local Similarity 44.9%; Pred. No. 1.9e-85;
Matches 168; Conservative 62; Mismatches 118; Indels
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                                                                      Query Match 93.2%; Score 1844; DB 3; L
Best Local Similarity 100.0%; Pred. No. 3.8e-199;
Matches 343; Conservative 0; Mismatches 0;
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US-09-270-767-45921
    ; TYPE: PRT
; · ORGANISM: Homo Sapien
US-09-333-729A-13
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166 GRFGNQVDQFLGVLAPAKALDRTLVLPWFIEFKH---PETKM-IPFEFLFQVGTVAKYTR 221
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      139 SELFIGI -- SFSASY -- - REQWSQRFSPKEHPVLALPGAPAOFPVLEEHRPLQKYMVWSD 193
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291 SYVPELQ-QLFKGKVKVVSLKPEVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRP 349
                                    19 GRFGNOADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLHVSYQKYFKLEPLQAYHR
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27.4%; Score 541.5; DB 3; Length 474;
Best Local Similarity 36.2%; Pred. No. 5.6e-52;
Matches 125; Conservative 60; Mismatches 107; Indels 53;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC COMPATIBLE CONFUTER: IBM PC COMPATIBLE CONFUTER: IBM PC COMPATIBLE CONFUTER: BLOOK OF THE CONFUTER: BLOOK MAIN DATA: APPLICATION NUMBER: US/08/978,741 FLIANG DATE: 26-NO. 6100076-1997 CLASSIFICATION DATA: APPLICATION NUMBER: 08/792498 FLILING DATE: 31 FLILING DATE: 31 FLILING DATE: 31 ATTORNEY/AGENT: INFORMATION:
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RESULT 12
US-09-270-767-61459
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US-09-333-729A-4
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:: :|:
----IEAHROEPDD 420
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                                                                               314 AQVDLYILGQADHFIGNCVSSFTAFVKRERDLQG---RPSSFFGM 355
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; Patent No. 6100076
; GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman TITLE OF INVENTION: O-Fucosyltransferase NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Geneatech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
                                                                                                                                                                                      Sequence 12, Application US/0933729A
; Sequence 12, Application US/0933729A
; GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Wang, Yang
APPLICANT: Spellman, Michael W.
TITLE OF INVERTION:
CURENT APPLICATION OF PROSYLITUTE
CURENT FILING DATE: 1999-06-15
PRIOR APPLICATION NUMBER: US/09/333, 729A
; PRIOR APPLICATION NUMBER: US/09/333, 729A
; NUMBER OF SEQ ID NOS: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
ORGANISM: Caenorhabditis Elegans
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395 -LTKEICSPSKQQI---
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US-09-333-729A-12
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LENGTH: 474
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17.8%; Score 353; DB 3; Length 61;
Best Local Similarity 100.0%; Pred. No. 4e-32;
Matches 61; Conservative 0; Mismatches 0; Indels
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: 1BM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genentech) CURRENT APPLICATION DATA: US/08/978,741 FILING DATE: 26-No. 6100076-1997
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APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-FUCOSyltransferase
TITLE REFERENCE: P1041P1D1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT FILING DATE: 1999-06-15
PRIOR PILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
SEQ ID NO 4
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APPLICATION NUMBER: 08/792498
FILING DATE: 31
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,04
REFRENCE/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/952-9489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 61 amino acids
TYPE: Amino Acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: Linear
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Best Local Similarity
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, TYPE: Amino acids
; TOPOLGY: Linear
US-08-978-741-3
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Best Local S
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Patent No. 6703491
GENERAL INPORMATION:
APPLICANT: Homburger et al.
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster FILE REPRENCE: File Reference: 7336-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: Patentin Ver. 2.0
ELENGTH: 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 17.3%; Score 343; DB 4; Length 200; Best Local Similarity 40.6%; Pred. No. 3.5e-30; Matches 80; Conservative 34; Mismatches 67; Indels
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC COMPATIBLE CONTROLL TO THE COMPATIBLE CONTROLL TO THE CONTROLL OF THE CONTROLL TO THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONT
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Patent No. 610076
GENERAL INFORMATION:
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSES Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: PRT
; ORGANISM: Drosophila melanogaster
US-09-270-767-61459
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INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
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US-08-978-741-3
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                                                                                                                                     3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
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Best Local Similarity 91.5%; Pred. No. 1.4e-25;
Matches 54; Conservative 0; Mismatches 5; Indels
     Length 61;
ch 14.9%; Score 295; DB 3; Length 61 Similarity 91.5%; Pred. No. 1.4e-25; 54; Conservative 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: DAA

ZIT: 94080

COMPUTER: READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: WinPatin (Genentech)

SOFTWARE: WinPatin (Genentech)

APPLICATION NUMBER: 08/08/978,741

FILING DATE: 26-NO. 6100076-1997

CLASSIPICATION 08-TS:

RAPLICATION NUMBER: 08/792498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: O'FUGGET W. Spellman TITLE OF INVENTION: O'FUGGSTITTANSFERSE O'CORRESPONDENCE ADDRESS: ADDRESSES: Genemet Genemeter, Inc. STREET: 1 DNA WAY CITY: South San Francisco STARET: California
                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Wang, Yang
APPLICANT: Spellman, Michael W.
APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-FUCOSyltransferase
FILE REFRENCE: P1041P1D1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT FILING DATE: 1999-06-15
PRIOR APPLICATION WUMBER: US 08/798,741
PRIOR FILING DATE: 1997-11-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: unsure; LGCATION: 15, 17, 38
OTHER INFORMATION: unknown amino acid; US-09-333-729A-5
                                                                                                                                                                                                                                                   KBSU13.728A-5
VG-09-333-728A-5
Sequence 5, Application US/09333729A
Patent No. 6270987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 14, Application US/08978741 Patent No. 6100076 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT ORGANISM: Cricetulus Grieseus
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| FILING DATE: 31
| ATTORNEY/AGENT INFORMATION:
| NAME: Svoboda, Craig G. |
| REGISTRATION NUMBER: 99.044 |
| REGISTRATION NUMBER: P1041P1 |
| TELECOMMUNICATION INFORMATION: |
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Search completed: October 25, 2005, 15:42:47 Job time : 60.9589 secs

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Walika, M. 091774954 Page 1 Seg. 10s 2, 349

GenCore version 5.1.6 Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

, Search time 232.341 Seconds (without alignments) 607.588 Million cell updates/sec October 25, 2005, 15:20:23 Run on:

US-09-774-954-2 1979 Title: Perfect score: Sequence:

1 MPAGSWDPAGYLLYCPCMGR......QGRPSSFFGMDRPPKLRDEF 365

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

2105692 Total number of hits satisfying chosen parameters:

2105692 seqs, 386760381 residues

Searched:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

geneseqp20018:\* geneseqp20028:\* geneseqp2003a8:\* geneseqp2003bs:\* A Geneseq 16Dec04:\* 1: geneseqp1980s:\* 2: geneseqp1990s:\* geneseqp2000s:\* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

genesedp20048:\*

SUMMARIES

|           | Description | Aaw80571 Human hea | Abm82223 Tumour-as | Aaw80573 Human O-f | Aam78377 Human pro | _        | Aaw80577 Partial h | Abb63790 Drosophil |            | Abg63619 Human alb | Adl76884 Albumin f | Aaw80574 N-termina | Aaw80572 N-termina | Abg95669 Human nuc | Abb69800 Drosophil | Ads96504 Drosophil | Human    |          | Human    | Aag55221 Arabidops |          |          | Aap94265 Sequence | Aaw80575 N-termina | Abm84900 Human dia | Abm84902 Human dia |
|-----------|-------------|--------------------|--------------------|--------------------|--------------------|----------|--------------------|--------------------|------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------|----------|----------|--------------------|----------|----------|-------------------|--------------------|--------------------|--------------------|
| SUMMARIES | ID          | AAW80571           | ABM82223           | AAW80573           | AAM78377           | AAM79361 | AAW80577           | ABB63790           | AAE03110   | ABG63619           | ADL76884           | AAW80574           | AAW80572           | ABG95669           | ABB69800           | ADS96504           | ABG95651 | AAY87325 | AAB40332 | AAG55221           | ABJ25654 | AAG60442 | AAP94265          | AAW80575           | ABM84900           | ABM84902           |
|           | DB          | 2                  | 8                  | ~                  | 4                  | 4        | 7                  | 4                  | 4          | Ŋ                  | œ                  | ~                  | ~                  | 'n                 | 4                  | œ                  | 'n       | ო        | m        | m                  | ø        | m        | ч                 | N                  | ω                  | œ                  |
|           | Length DB   | 365                | 388                | 397                | 417                | 417      | 343                | 402                | 165        | 165                | 165                | 61                 | 61                 | 328                | 490                | 490                | 429      | 150      | 428      | 266                | 260      | 266      | 783               | 28                 | 772                | 772                |
| ۵         | 당선          | 100.0              | 100.0              | 100.0              | 94.4               | 93.8     | 93.2               | 42.0               | 40.9       | 40.9               | 40.9               | 17.8               | 14.9               | 8.3                | 8.1                | 8.1                | 7.2      | 6.1      | 5.3      | 5.3                | 5.2      | 5.2      | 5.1               | 5.1                | 5.1                | 5.1                |
| •         | Score       | 1979               | 1979               | 1979               | 1867.5             | 1855.5   | 1844               | 831                | 809        | 809                | 809                | 353                | 295                | 164.5              | 159.5              | 159.5              | 142      | 120      | 105.5    | 104                | 102.5    | 102      | 101.5             | 101                | 100.5              | 100.5              |
|           | io i        |                    | 8                  | m                  | 4                  | Ŋ        | φ                  | 7                  | <b>6</b> 0 | 6                  | 10                 | 11                 | 12                 | 13                 | 14                 | 15                 | 16       | 17       | 18       | . 19               | 20       | 21       | 22                | . 23               | 24                 | 25                 |

This represents a human heart O-fucosyltransferase that can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene

Example 1; Fig 12A; 90pp; English.

| Abm84993 Human dia Ade95590 Human dia Ade95590 Human NOV Ade95588 Human NOV Ade42097 Human ORF Adm21027 Human GRF Adm21027 Human GRF Adm35105 Protein e Adu6554 M. catarr Adv35376 Protein e Abu45376 Protein e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Abg93234 C. albica<br>Abp73947 Candida a<br>Ade95866 Human NOV<br>Abg25040 Novel hum |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| ABM64903 ADBM64899 ADBS5590 ADBS5588 AAA42097 AAA42097 AAA4301127 ABM4901 ADJ55094 AAC9313 ABU55306 AAC9313 ABU55306 AAC9319 AAU76319 AAU76319                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ABG93234<br>ABP73947<br>ADE95586<br>ABG25040                                         |
| 22773648621114804<br>88778887789889                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 11 5 7 2 7 2 4 4 7                                                                   |
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## ALIGNMENTS

Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving overexpression of the enzyme. 1. .61 /note= "N-terminal sequence claimed for in claim 4" O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart. Location/Qualifiers Ä Human heart O-fucosyltransferase. AAW80571 standard; protein; 365 97US-00792498. 97US-00978741. 97WO-US023401 (first entry) (GETH ) GENENTECH INC. Wang Y, Spellman MW; WPI; 1998-437477/37. N-PSDB; AAV65632 Homo sapiens. 17-DEC-1997; 31-JAN-1997; 26-NOV-1997; WO9833924-A1 16-DEC-1998 06-AUG-1998. AAW80571; Key Peptide RESULT 1 AAW8057  us-09-774-954-2.rag

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                                                                                                                                                                                                                                                                                                                                                                        120
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                                                                                                                                                                                HVSYQKYFKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMK 120
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                                                                                                                                                                                                  61 HVSYQKYFKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPWK
                                                                                                                                                                                                                                        EGNPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLB
                                                                                                                                                                                                                                                                                              EHRPLQKYMVWSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMA
                                                                                                                                                     1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
                                                                                                                          1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
amplification and expression. The expression can also be determined the protein level using antibodies specific for O-fucosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tumour-associated antigenic target; TAT; human; overexpression; ctumour; diagnosis; cell proliferative disorder; breast cancer; colorectal cancer; lung cancer; ovarian cancer; liver cancer; central nervous system cancer; bladder cancer; pancreatic cancer; cervical cancer; helanoma; leukaemia; hybridisation probe; chromosome identification; chromosome mapping; gene mapping;
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                                                                  Length 365
                                                                                             0; Indels
                                                                  ; Score 1979; DB 2;
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Matches 365; Conservative 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18-NOV-2004 (first entry)
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The invention relates to human tumour-associated antigenic target (TAT) polypeptides, and their related nucleic acids. The TAT polypeptides are oversxpressed in cancer tissues compared to normal tissues, and may thus converspressed in cancer tissues compared to normal tissues, and may thus serve as effective targets for the diagnosis and treatment of dancer in mammals. The invention also relates to nucleic acid and polypeptide of sequences at least 80% identical to the TAT mucleic acids and complexition and polypeptides, expression vectors and host cells comprising and mithodies, and methods and compositions fusion proteins comprising a contibodie, and methods and compositions for the treatment or diagnosis of cancer in mammals. TAT polypeptides, mucleic acids, antibodies, antagonists, binding molecules and compositions are useful antibodies, antagonists, binding molecules and compositions are useful concased TAT expression, particularly cancers such as breast cancer, increased TAT expression, particularly cancers such as breast cancer, cancer, panceatic cancer, particularly cancers, cancers of the central nervous system, melanome and leukaemia. TAT mucleic acids may further be chromosome identification and in gene therapy. The present sequence the represents a TAT polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human O-fucosyltransferase sequence expressed by a plasmid insertion.
New tumor-associated antigenic target polypeptides and nucleic acids, useful in preparing a medicament for treating or detecting a proliferative disorder, e.g. breast, lung, colorectal, ovarian or prostate cancer or tumor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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                                                                                                   Claim 12; SEQ ID NO 5726; 7273pp; English.
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ID AAW8
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AC AAW8
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7 DPAGYLLYCPCM----GRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                              06-NOV-2001 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 350; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-476283/51.
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Ma Y, Zhao QA, Wa:
          LRDEF 365
                               LRDEF 397
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                               393
                                                                                                        AAM78377;
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          361
                                                               RESULT 4
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                                                                                                                                                                                                                                                                                                                                                               fucosyltransferase expressed by a plasmid insertion. The human O-fucosyltransferase can glycosylate an epidermal growth factor (EGF) fucosyltransferase can glycosylate an epidermal growth factor (EGF) of polymetric with an activated O-fucose residue. Inhibitors of domains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptica are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92
                                                                                                                                                                                                                                                                                     Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      33 MPAGSWDPAGYLLYCPCWGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLINRTLAVPPWIEYQHHKPPFTNL
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O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart.
                                                                                                                                                                                                                                                                                                                                                        This represents the amino acid sequence of the human heart O-fucosyltransferase expressed by a plasmid insertion. The human O-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 1979; DB 2;
llarity 100.0%; Pred. No. 2.8e-205;
Conservative 0; Mismatches 0;
                                                                                    /note= "polyhistidine tag"
                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                   Example; Fig 13B; 90pp; English
                                                                                                                                                                                                                                                                                                            overexpression of the enzyme.
                                                                                                                                                                           97US-00792498.
                                                                                                                                                      97WO-US023401
                                                                                                                                                                                                           GETH ) GENENTECH INC.
                                                                                                                                                                                                                                 Wang Y, Spellman MW;
                                                                                                                                                                                                                                                      WPI; 1998-437477/37.
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Matches 365; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eucosyltransferase
                                                                                                                                                                                                                                                                  N-PSDB; AAV65633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 397 AA;
                                                                                                                                                      17-DEC-1997;
                                                                                                                                                                            31-JAN-1997;
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                                  sapiens
                                                                                                            WO9833924-A1
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                                            Synthetic
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                                                                  Key
Peptide
                                  Homo
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to polynucleotides (AAK51456-AAK53435) and the encoded polypeptides (AAM78323-AAM80302) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nucleic acids encoding polypeptides with cytokine-like activities, useful
                                                                                                                                                                                                                                                                        Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorder; arthritis; inflammation.
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Wang
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drmanac RT, Asundi V, Zhou P, Xt
Wang D, Wang J, Zhang J, Ren F,
Wejhrman T, Goodrich R;
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AAM78377 standard; protein; 417 AA.
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20-JUN-2000; 2000US-00598075.
19-JUL-2000; 2000US-00620325.
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15-SEP-2000; 2000US-00663561.
20-OCT-2000; 2000US-00693325.
30-NOV-2000; 2000US-00728422.
                                                                                                                                                                                                         Human protein SEQ ID NO 1039
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362 RDEF 365
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                                                                                                                        Sequence 417 AA;
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26-NOV-1997;
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                                                        ileic acids encoding polypeptides with cytokine-like activities, useful diagnosis and gene therapy.
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                                                                                                 54 DWATWPTHAPSVEEGGGGREGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHKPPFTNLH 113
                         VSYQKYFKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMKE 121
                                                                                         HRPLQKYMVWSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMAS 241
                                                                                                                        PQCVGYSRSTAAPLIMIMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFK 301
                                                                                                                                                                                                                                                                                                             Human, cytokine, cell proliferation, cell differentiation, gene therapy, vaccine, peptide therapy, stem cell growth factor, haematopoiesis, tissue growth factor; immunomodulatory, cancer; leukaemia; nervous system disorder; arthritis; inflammation.
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R, Wang ZW;
                                    Tang YT, Liu C, Drmanac RT, Asundi V, Zhou P, Xu C,
Ma Y, Zhao QA, Wang D, Wang J, Zhang J, Ren F, Chen
Xue AJ, Yang Y, Wejhrman T, Goodrich R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 20; Page 229-230; 6221pp; English
                                                                                                                                                                                                                                                 AAM79361 standard; protein; 417 AA.
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20-UTW-2000; 2000US-00580075.
19-UTW-2000; 2000US-00650325.
01-SEP-2000; 2000US-00654936.
15-SEP-2000; 2000US-00663561.
20-CCT-2000; 2000US-0063325.
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                                                                                                                                                                                                                                                                                                Human protein SEQ ID NO 3007
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N-PSDB; AAK52494.
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                                                                                                                                                                                                                                                                AAM79361;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic
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                                                                                                                                                                                                                                  RESULT 5
AAM79361
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The invention relates to polynuclectides (AAK51456-AAK53435) and the encoded polypeptides (AAM78323-AAM80302) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynuclectides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity, tissue growth factor activity, immunomodulatory activity and activity, tissue growth factor activity, immunomodulatory activity and activity actor activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, archritis and inflammation. Note: Records for SEQ ID NO 2110 (AAK52581), 2111 from the sequence listing were missing at the time of publication
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 122 GNPFGPFWDQFHVSFNKSELFTGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLEE 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     182 HRPLOKYMVWSDEMVKTGEAQIHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMAS 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PQCVGYSRSTAAPLTMTMCLPDLKEIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFK 301
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7 DPAGYLLYCPCM-----GRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62 VSYQKYFKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Partial human sequence of unknown function from a myeblast cell line.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5; Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
93.8%; Score 1855.5; DB 4; Length 417;
Best Local Similarity 95.6%; Pred. No. 7.6e-192;
Matches 348; Conservative 4; Mismatches 7; Indels 5;
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Myers EW;
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                                                                                                                                                    Li PWD,
                                        23-MAR-2001; 2001WO-US009231
                                                                      23-MAR-2000; 2000US-0191637P.
11-JUL-2000; 2000US-00614150.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | |:| || || SYFWGF---PKEKD 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 44.7
Matches 167; Conservative
                                                                                                                                                      Adams M,
                                                                                                                                                                                   WPI; 2001-656860/75
                                                                                                                     (PEKE ) PE CORP NY
                                                                                                                                                                                                   N-PSDB; ABL07893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 402 AA;
                                                                                                                                                                                                                                                                 interactions.
              27-SEP-2001
                                                                                                                                                      Venter JC,
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AAE03110
ID AAEC
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AC AAEC
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                                                                                                                                                                                                             This represents a published partial human sequence of unknown function from a myeblast cell line. The invention provides a human heart Ofucosyltransferase enzyme that can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated Ofucose residue. Inhibitors of Ofucosyltransferase, e.g. mutants with increased affinity for the BFG domains, are used in diagnosis and treatment of conditions associated with overexpression of Ofucosyltransferase, to promote polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for Ofucosyltransferase
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                        Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGISFSASYREQWSQRFSPKEHPVLALPGAPAQFPVLEEHRPLQKYMVWSDEMVKTGEAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IHAHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMASPQCVGYSRSTAAPLTMTMCLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EDPMEKLAPTHWPPEKRVAYCFEVAAQRSPDKKTCPMKEGNPFGPFWDQFHVSFNKSELF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23 NQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLHVSYQKYFKLEPLQAYHRVISL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 93.2%; Score 1844; DB 2; Length 343; Best Local Similarity 100.0%; Pred. No. 1e-190; Matches 343; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OADHFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPKLRDEF 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QADHFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPKLRDEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Drosophila melanogaster polypeptide SEQ ID NO 18162
                                                                                                                                                                                      Example 1; Page 62-68; 90pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABB63790 standard; protein; 402 AA
                                                                                                                                                         overexpression of the enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
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                 (GETH ) GENENTECH INC
                                             Spellman MW
                                                                              1998-437477/37
                                                                                            N-PSDB; AAV65634
                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 343 AA;
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                                             Wang Y,
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capable of detecting 1000 or more genes from Drosophila. The invention is useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher enkaryoces for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL01840-ABL16175) and the encoded proteins (ABBE7737) and the encoded proteins (ABBE7737) prints appearance (ABL01840-ABL16175) and the encoded proteins (ABBE7737) prints appeared and for this patent did not form part of from MIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              67 YFKLEPLQAYHRVISLEDFMEKLAPTHWPPEKRVAYCFE----VAAQRSPDKKTCPMKE 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   179 LEEHRPLOKYMVWSDEMVKTGEAQIHAHLVR-PYVGIHLRIGSDWKNACAMLKDGTAGSH 237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                291 SYVPELQ-QLFKGKVKVVSLKPEVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRP 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HIGELNTALSRAGISVHKLPEDDPYLDLAILGQSNHFIGNCISSYSAFEKRERDVHGFP 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            82
New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28 DPNGYLTYCPCMGRFGNQADHFLGSLAFAKALNRTLILPPWVEYR--RGELRSRQVPFNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            122 GNPFGPFWDQFHVSFNKSELFTGISFSASYREQ---WSQRFSPKEHPVLALPGAPAQFPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               238 FMASPQCVGYSRSTAAPLTWTWCLPDLKEIQRAVKLWVRSL-----DAQSVYVATDSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             206 QLENCKLORYLQWSQRYREASKDFIREQLPRGAFLGIHLRNGIDWVRACEHVKD---SQH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 DPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLHVSYQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                           The invention relates to an isolated nucleic acid detection reagent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          56;
                                                                                                                                                          Disclosure; SEQ ID NO 18162; 21pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 402;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62; Mismatches 119; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     42.0%; Score 831; DB 4;
44.7%; Pred. No. 1.1e-80;
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AAD07571-AAD07645 represent cDNAs corresponding to 25 human secreted protein genes, and AAD03162-AAB0312 represent the proteins they encode. Parcein genes, and AAD03162-AAB0312 represent the proteins they encode. AAB03127-AAB03150 represent human secreted protein fragments. The genes and their corresponding secreted proteins are useful for preventing. C. reacting or ameliorating medical conditions, e.g., by protein or gene therapy. Pathological conditions can be diagnosed by determining the camount of the new protein in a sample or by determining the presence of mutations in the new genes. Specific uses are described for each of the and include developing products for the diagnosis or treatment of the and include developing products for the diagnosis or treatment of proliferative disorders, cancer, tumours, foetal and developmental abnormalities, haematopoietic disorders, diseases of the immune system, C. Albs, and inclumnation, and callergies, neurological disorders (e.g., Alzheimer's disease, Parkinsons's disease), cognitive disorders, schizophrenia, asthma, skin
                                                                       Human; secreted protein, proliferative disorder; cancer; tumour; foetal abnormality; developmental abnormality; haematopoietic disorder; infamune system disorder; ALDS; autoimmune disease; rheumatoid arthritis; inflammation; allergy; neurological disorder; Alzheimer's disease; Parkinson's disease; cognitive disorder; schizophrenia; asthma; skin disorder; psoriasis; sepsis; diabetes; atherosalerosis; cardiovascular disorder; angiogenic disorder; kidney disorder; gastrointestinal disorder; propagancy-related disorder; gene therapy; cendocrine disorder; infection; wound healing; vulnerary; cell culture; chemotaxis; food additive; chromosome 3; binding partner identification.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nucleic acids encoding 25 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. Gaucher's disease, Alzheimer's disease, Scimitar syndrome, Creutzfeldt-Jacob disease, diabetes mellitus and multiple sclerosis.
                                        Human gene 18 encoded secreted protein HMWEY26, SEQ ID NO:144.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ruben SM, Komatsoulis GA, Shi Y, Olsen HS, Soppet DR;
                                                                                                                                                                                                                                                                                                                                                                                                                  "Mature secreted protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                        'label= Unknown
'note= "Encoded by ANA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'label= Unknown
'note= "Encoded by NCA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'note= "Encoded by TGA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= Unknown
/note= "Encoded by AGS"
                                                                                                                                                                                                                                                                                                                                                                   l. .1
/label= Signal_peptide
2. .165
/note= "Mature secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 11; Page 486-487; 546pp; English.
                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          label= Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-OCT-1999; 99US-0162237P.
21-JUL-2000; 2000US-0219666P.
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  (first entry)
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                                                                                                                                                                                                                                                                                                     Homo sapiens
10-AUG-2001
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                                                                                                                                                                                                                                                                                                                                         Key
Peptide
                                                                                                                                                                                                                                                                                                                                                                                                Protein
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disorders (e.g., psoriasis), sepsis, diabetes, atherosclerosis, cardiovascular disorders, angiogenic disorders, kidney disorders, gastrointestinal disorders, pregnancy-related disorders, endocrine disorders, and infections. The proteins can also be used to aid wound clisorders, and infections. The proteins can also be used to aid wound the aling and epithelial cell proliferation, to prevent skin aging due to sunburn, to maintain organs before transplantation, for supporting cell culture of primary tissues, to regenerate tissues, to identify their cognate ligands or binding partners, and in chemctaxis, and can be used as a food additive or preservative to modify storage properties. Antibodies specific for a protein of the invention can be used in alleviating symptoms associated with the disorders mentioned above, and in diagnostic immunosasys e.g., radioimmunoassay or enzyme linked immunosorbent assay (ELISA). The present sequence represents a human corrected protein of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                   206 HLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMASPQCVGYSRSTAAPLTMTMCLPDLK 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPEVAQVDLYILGQAD 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   66 EIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPEVAQVDLYILGQAD 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                             6 HFARTYPGIHLRIGSDWKNACAMLKDGTAGSHFWASPQCVGYSRSTAAPLTMTMCLPDLK
                                                                                                                                                                                                                                                                                                                                                                              0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Albumin fusion protein; therapeutic protein X; human albumin; HA; human serum albumin; HSA; cancer; reproductive disorder; digestive disorder; immune disorder; endocrine disorder; hematopoletic disorder; neural disorder; connective disorder; cytostatic; antiinfortility; antiinflammatory; antiulcer; immunomodulator; anti-HIV; antidiabetic; haemostatic; nootropic; neuroprotective; antiparkinsonian; antimicrobial; neuroleptic; osteopathic; antiarthritic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New fusion protein for treating disease e.g. diabetes comprises
                                                                                                                                                                                                                                                                                                                                      Length 165;
                                                                                                                                                                                                                                                                                                                                      40.9%; Score 809; DB 4; Length 168
96.9%; Pred. No. 6.6e-79;
ive 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              326 HFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPKLRDEF 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABG63619 standard; protein; 165 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human albumin fusion protein #294.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12-APR-2000; 2000US-0229358P.
25-APR-2000; 2000US-0199384P.
21-DEC-2000; 2000US-0256931P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 96.9°
Matches 155; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2002-010886/01
                                                                                                                                                                                                                                                                                                   Sequence 165 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-AUG-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 9
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albumin fused to a therapeutic protein.
       Claim 1; Page 755-756; 2102pp; English
                                                                                            Matches 155; Conservative
                                                                                                                                                                                                                                                                                                       Rosen CA, Haseltine WA;
                                                                                                                                                                                                                                                                                           (ROSE/) ROSEN C A. (HASE/) HASELTINE W A.
                                                                                       Best Local Similarity
                                                                                                                                                                                                                                                                                                                WPI; 2004-090519/09
                                                                           Sequence 165 AA;
                                                                                                                                                                                                                                                 US2004010134-A1
                                                                                                                                                                                                                                        Unidentified.
                                                                                                                                                                                                                                                         15-JAN-2004.
                                                                                                                                                                             ADL76884;
                                                                                    Query Match
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The present invention relates to albumin fusion proteins comprising a therapeutic protein X and human albumin (HA, also known as human serum atbumin, HSA). The proteins are useful for treating a disease or disorder that may be modulated by therapeutic protein X. The albumin extends the shelf-life of protein X, and may increase its biological in vitro/in vivo activity. The protein is useful for treating and diagnosing disorders disease, ulcarative colitis), immune disorders (e.g. crohn's disease, ulcarative colitis), immune disorders (e.g. acquired haemacopoietic disorders, neural disorders (e.g. Alzheimer's, Parkinson's, Creutzfeldt-Jacob disease, encephalomyelitis, meningitis, schizophrenia), and connective disorders (e.g. osteoporosis, arthritis). ABG63326-ABG65518 represent albumin fusion proteins of the invention ö 266 BIQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPEVAQVDLYILGQAD 325 206 HLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMASPQCVGYSRSTAAPLTMTMCLPDLK 265 65 6 HFARTYPGIHLRIGSDWKNACAMLKDGTAGSHFWASPQCVGYSRSTAAPLTWTMCLPDLK Gaps . 0 Length 165; Indels 40.9%; Score 809; DB 5; Le 96.9%; Pred. No. 6.6e-79; ive 0; Mismatches 5;

ADL76884 standard; protein; 165 AA. 20-MAY-2004 (first entry)

albumin fusion protein, cytostatic, antianaemic; antiarthritic; antiasthmatic; anti-HIV; immunosuppressive; antiinflammatory; antibacterial; osteopathic; dermatological; antigout; immunomodulator; antiarrhythmic; cardiant; nootropic; antilipaemic; nephrotropic; uropathic; neuroprotective; antiparkineonian; tranquilizer; antidiabetic; anabolic; hypertensive; vulnerary; gene therapy; cancer; Albumin fusion protein related therapeutic protein X, SEQ ID No 366. reproductive system disorder; therapeutic protein.

12-APR-2000; 2000US-0229358P. 25-APR-2000; 2000US-0199384P. 21-DEC-2000; 2000US-0256931P. 12-APR-2001; 2001US-00833245.

, treating, prevent anemia, arthritis, New albumin fusion proteins, useful for diagnosing, treatior ameliorating diseases or disorders e.g. cancer, anemia, asthma, inflammatory bowel disease or Alzheimer's disease

Disclosure; SEQ ID NO 366; 279pp; English

The trivention relates to a noneal albumin tutaton procesin.

The trivention relates to a composition comprising the albumin fusion protein

and a pharmaceutical carrier; a kit comprising the albumin fusion protein

and a pharmaceutical carrier; a kit comprising the albumin fusion protein in the pharmaceutical carrier; a kit comprising the composition of the albumin fusion protein; a method of treating a petient with a disease or disorder that a method of treating a petient with a disease or disorder that is mothalized by Therapeutic protein; a vector comprising the muclaic acid molecule of the albumin fusion protein; and a host cell captumin fusion protein; and a host cell comprising the nuclaic acid molecule of the albumin fusion protein; and a host cell comprising the nuclaic and into compositions have the following comprising the nuclaic and into compositions have the following cardiant, notropic, antihilamentory, antipodiator, antiatrhythmic, excivities: cycoetaric, antihalamentory, antipodiator, antiatrhythmic, or ardiant, notropic, antihilamentory, immunosubprosective, antipodiator, insulational protein and values of sequence of comprising indication; Y. The disease of disorders include:

Comprising the nuclaic diseases (e.g. anaemia, Hodgkin's disease, outer language methors and values of the albumin fusion protein in the comprosective antipodiator, bone, breast, laver or lung cancers, comprising indication; Y. The disease or disorders include:

Comprising indication; Y. The disease or disorders include:

Comprising indication; Y. The disease or disorders include:

Comprising indication; P. The disease or disorders include:

Comprising indication; Y. The disease or disorders include:

Comprising indication; Y. The disease or disorders include:

Comprising indication; Y. The disease or disorders include include include include include include include include include include include include include include include include include include include include include include include include include include incl invention relates to a novel albumin fusion protein.

Sequence 165 AA;

ö 40.9%; Score 809; DB 8; Length 165; 96.9%; Pred. No. 6.6e-79; 5; Indels 0; Mismatches Query Match Best Local Similarity 96.9 Matches 155; Conservative

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RESULT 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 60
                                                                                                                                                                                                                                                                                                           Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving overexpression of the enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                       N-terminal amino acid sequence of human heart O-fucosyltransferase.
                                                                                                          O-fucosyltransferase, epidermal growth factor; EGF; glycosylation;
O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 17.8%; Score 353; DB 2; Length 61 Best Local Similarity 100.0%; Pred. No. 4.4e-30, Matches 61, Conservative 0; Mismatches 0; Indels
                            AAW80574 standard; peptide; 61 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW80572 standard; peptide; 61 AA
                                                                                                                                                                                                                                                                                                                                                      Claim 4; Page 69; 90pp; English.
                                                                                                                                                                                                                      97US-00792498.
                                                                                                                                                                                                    97WO-US023401
                                                                     (first entry)
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                                                                                                                                                                                                                                                    (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                       Spellman MW;
                                                                                                                                                                                                                                                                                           WPI; 1998-437477/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   fucosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 61 AA;
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26-NOV-1997;
                                                                     16-DEC-1998
                                                                                                                                        Homo sapiens
                                                                                                                                                           WO9833924-A1
                                                                                                                                                                               06-AUG-1998
                                               AAW80574;
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                                                                                                                                                                                                                                                                       Wang Y,
         RESULT 11
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AAW8057
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This represents the N-terminal sequence of CHO O-fucosyltransferase. The enzyme can glycosylate an epidezmal growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucospiltransferase, e.g. mutants with increased affinity for the ERG domains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving voverexpression of the enzyme.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human nucleic acid associated protein, NAAP26, Incyte 7503717CD1.
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Pred. No. 8.6e-24;
0; Mismatches 5; Indels
                                                                                                                                                               Location/Qualifiers
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                                                                                                                                                                                                                                  'note= "unknown"
                                                                                                                                                                                                                                                                                                    'note= "unknown"
                                                                                                                                                                                                                                                                                                                                                                      /note= "unknown"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97WO-US023401.
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Best Local Similarity 91.5%;
Matches 54; Conservative
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                                                                                                                                                                                                                                                                                                                                       Misc-difference 38
                                                                                                                                                                                                                                                                     Misc-difference 17
                                                                                                                                                                       Key
Misc-difference
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26-NOV-1997;
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37 LLNRT----LAVPPWIEYQH-HKPPFTNLHVSYQKYFKLEPLOAYHRVISLEDFMEKLAP

91

13 AVSWPPASASGQEFWPGQSAADILSGAASRRRYLLXDVNPPEG-FNLRRDVYIRIASLLK 71

THWPPEKRVAYCFEVAAQRSPDKKTCPMKEGNPFGPFWDQFHVSFNKSELFTGISFSASY 151

92

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131

------GPFIDOVYV--------LOSY

207 LVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFMASPQCVGYSRSTAAPLIMTMCLPDLKE

183 LGGPYLGVHLR-------RKDFIWGHR-------

Burford N;

Yue H;

--- ODVPSLEG 210

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8.3%; Score 164.5; DB 5; Length 328;
llarity 21.7%; Pred. No. 1.6e-08;
Conservative 41; Mismatches 115; Indels 151; Gaps
                                                                                                                                                                      Hillman JL, Baughn MR, Swarnakar A, Yue H, Elliott VS, Bu
Ding L, Tang YT, Lee SY, Azimzai Y, Walia NK, Gietzen KJ;
Grifffin JA, Lal PG, Yang J, Borowsky ML, Richardson TW, Y
Becha S, Forsythe IJ, Jones KA, Warren BA, Thangavelu K;
Honchell CD, Jolley HE, Hafalia AJA, Ring HZ;
Crohn's disease; multiple sclerosis.
                                                                              2001US-0276857P.
2001US-0285489P.
2001US-028556F.
2001US-0288700P.
2001US-0298700P.
                                                                                                                                11-MAY-2001; 2001US-0290369P.
16-NOV-2001; 2001US-0332426P.
                                                               14-MAR-2002; 2002WO-US007869
                                                                                                                                                         (INCY-) INCYTE GENOMICS INC.
                                                                                                                                                                                                                           WPI; 2002-723448/78.
                                                                                                                                                                                                                                    N-PSDB; ABS73886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 328 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           an NAAP protein
                               WO200274913-A2
                Homo sapiens.
                                                                                                                 34-MAY-2001;
                                                                                                19-APR-2001;
                                                                                                         34-MAY-2001;
                                                                                                                          .0-MAY-2001;
                                               26-SEP-2002
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The invention relates to an isolated human nucleic acid-associated protein (NAAP), comprising the protein sequences appearing as ABG95644-protein (NAAP), comprising the protein sequences appearing as ABG95644-comprising the protein sequence appearing as ABG95644-comprising the nucleotides, a recombinant computed the nucleotide are comprising polymucleotides, a recombinant NAAP promogenic organism, an anti-NAAP antibody, screening compounds as modulators or antigonists of NAAP or modulators or antigonists of NAAP or modulators of NAAP polymucleotide expression, a microarray comprising 30-60 mucleotides of the NAAP polymucleotides and generating an expression profile of a sample that contains NAAP polymucleotides. The polypeptide, polymucleotide and agonist are useful for treating a disease or condition associated with decreased expression of functional NAAP. The antagonist overexpression of functional NAAP. The antibody that specifically binds to the polypeptide is useful for diagnosing a condition or disease controlated with the expression of NAAP. These diseases include associated with the expression of NAAP. These diseases include to rutcing an antipoly that specifically binds to inflammatory disorders. These polypeptides, polymucleotides, agonists and antagonists may also be used for preventing these diseases. These conditions associated with horder atherned with functional NAAP expression also includes a phaened for preventing these diseases. These diseases or conditions associated with functional NAAP expression also includes a phaened for preventing these diseases. These diseases or conditions associated with expression also ensed for preventing these diseases. These polymediated when the phaened for preventing these diseases. These polymediated when the phaened for preventing these diseases. These polymediated when the phaened for preventing these diseases.
                                                                                 for diagnosing, treating or preventing cardiovascular, neurological, autoimmune or inflammatory disorders, e.g. atherosclerosis, Alzheimer's
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human nucleic acid-associated proteins and polynucleotides, useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  includes atherosclerosis, bursitis, cirrhosis, hepatitis, psoriasis, cancers (e.g. lymphoma, melanoma, brain cancer or breast cancer), Cushing's syndrome, Alzheimer's disease, acquired immunodeficiency
                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; Page 193-194; 219pp; English
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315
                The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher enkaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABLIG175 and the encoded proteins (ABBS7737-ABB12072). The sequence data for this patent did not form part of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New isolated nucleic acid detection reagent for detecting 1000 or more
genes from Drosophila and for elucidating cell signaling and cell-cell
267 IQRAVKLWVRSLDAQSVYVATDSESYVPELQQLFKGKVKVVSLKPE------VAQ
                                                                                                                                                                                                                                                                         Drosophila; developmental biology; cell signalling; insecticide; pharmaceutical.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure, SEQ ID NO 36192; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                    Orosophila melanogaster polypeptide SEQ ID NO 36192
                                                         316 VDLYILGQADHFIGNCVSSFTAFVKRERDLQG 347
                                                                                    269 IDOWICAHARFFIGTSVSTFSFRIHEEREILG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Myers EW;
                                                                                                                                                               ABB69800 standard; protein; 490 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Li PWD,
                                                                                                                                                                                                                                                                                                                                                                                                                                           23-MAR-2000; 2000US-0191637P.
11-JUL-2000; 2000US-00614150.
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                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                             Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2001-656860/75
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Local Similarity les 85; Conserv

Best Loca Matches

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                                                                                                                                                                                                                                                                                                   211
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                                                                                                                                                 9 AGYLLYCPCMGR-FGNQADHFLGSLAFAKLLNR-----TLAVPPWIEYQH-HKPPFTN
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printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
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B.1%; Score 159.5; DB 4; Length 490;
Bset Local Similarity 22.4%; Pred. No. 1.1e-07;
Matches 92; Conservative 55; Mismatches 159; Indels 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Drosophila melanogaster protein, SEQ ID 125
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Drosophila viability
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N-PSDB; ADS96503.
                                           Sequence 490 AA;
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The present invention relates to a method for identifying a compound that inhibits the activity of a protein essential for Drosophila viability. The method comprises: (a) expressing in a recombinant host a DNA sequence encoding a protein essential for Drosophila viability. (b) testing compounds suspected of having the ability to inhibit the activity of the protein expressed in (a); and identifying to inhibit the activity of the protein essential for Drosophila viability for use as insecticial especial in identifying a compound that inhibits the activity of a protein essential for brosophila viability for use as insecticial, ectoparasiticial, antihelminthic or acaracidal agent. The present sequence is one such protein essential for Drosophila viability. Note: The specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
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7, Appli 33, Appl 12608, A

Appli

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Sequence:

Run on:

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Sequence 13022, A Sequence 12127, A Sequence 16285, A Sequence 15785, A Sequence 15547, A Sequence 573, App Sequence 17508, A
                                                                                                                                                                                                              Sequence 12149, A
Sequence 13434, A
Sequence 1820, Ap
Sequence 7, Appli
                                                                                                        Sequence 1, Appli
Sequence 478, App
Sequence 2, Appli
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Sequence 16388, A
Sequence 1, Appli
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Sequence 15545,
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US-09-294-016-15545

US-09-949-016-15286

US-09-949-016-12149

US-09-949-016-12149

US-09-949-016-13143

US-09-596-016-13434

US-09-596-016-1360-7

US-09-949-016-12608

US-09-949-016-15698

US-09-949-016-15698

US-09-949-016-15698

US-09-949-016-16188

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US-09-949-016-1617
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COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: 18M PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: WinPatin (Genentech)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/978,741

FILING DATE: 26-NO. 6100076-1997

CLASSIFICATION: 435
   US-09-270-767-13022
US-09-949-016-12127
US-09-949-016-16285
US-09-949-016-13785
US-09-949-016-15547
US-09-902-540-573
US-09-949-016-15547
                                                                                                        US-09-103-840A-1
US-09-614-221A-478
US-09-103-840A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellmar
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; Sequence 16, Application US/08978741; Patent No. 6100076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/792498
FILING DATE: 31
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 39,044
REPERENCE/DOCKET NUMBER: P10.
TELECOMMUNICATION: TELECHONE: 650/225-1489
TELEFAX: 650/952-9881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Genentech, Inc. STREET: 1 DNA Way CITY: South San Francisco STATE: California COUNTRY: USA
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4086 4
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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10357
12665
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10259
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Sequence 7, Appli
Sequence 8, Appli
Sequence 14353, P
Sequence 28905, P
                                                                                                            October 26, 2005, 08:18:39; Search time 320.031 Seconds (without alignments) 1866.199 Million cell updates/sec
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1979
1 MPAGSWDPAGYLLYCPCWGR......QGRPSSFFGWDRPPKLRDEF 365
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Sequence 1
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/cgn2 6/ptodata/1/ina/6A_COMB.seq:*
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/cgn2 6/ptodata/1/ina/PCTUS_COMB.seq:*
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                       GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                  nucleic search, using frame_plus_p2n model
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US-08-978-741-1
US-08-978-741-5
US-08-978-741-5
US-08-978-741-5
US-09-333-729A-8
US-09-333-729A-8
US-09-270-767-14353
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Maximum Match 100%
Listing first 45 summaries
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Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
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Maximum DB seq length: 200000000
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Perfect score:
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Database

Result No.

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GluGlyAsnProPheGlyProPheTrpAspGlnPheHisValSerPheAsnLysSerGlu 140
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                                                                                                         Thrieualavalbroprofrp11eGlufyrGlnHisHisLysProProPheThrAsnLeu 60
                                                                                                                                                  HisvalSerTyrGlnLysTyrPheLysLeuGluProLeuGlnAlaTyrHisArgVallle 80
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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                                      2.04e-234
1979.00
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100.00$
LENGTH: 1100 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Single
1, TOPDLOGY: Linear
US-08-978-741-16
                                            Percent Similarity:
Best Local Similarity: 1
Query Match:
                                  Alignment Scores:
Pred. No.:
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| <br>qq                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 901                                                                                                                                                                                                                              | AAAGGGAAG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | GTGAAGGTGGTGAG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ccreaagccreaggre                                         | 96                                                                    |  |
| <br>& 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 321                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | AlaaspHisPheII<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | eGlyAsnCysValSer<br>                <br>TGGCAACTGTGTCTCC | LeuglyglnalaasphispheileglyasnCysValSerSerPheThralaPheValLys 340<br>  |  |
| <br>ò                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 341                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | AspLeuGlnGlyAr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | gProSerSerPhePhe                                         | 360                                                                   |  |
| qq                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1021                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | GACCTCCAGGGGAG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | eccercitation                                            | decaredaciecerraag 1080                                               |  |
| <br>λō                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 361                                                                                                                                                                                                                              | LeuArgAspGluPhe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | GluPhe 365                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                          |                                                                       |  |
| <br>qa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1081                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                          |                                                                       |  |
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| <br>Aligni<br>Pred.<br>Score<br>Percei<br>Best l<br>Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ment Sco<br>No.:<br>:<br>nt Simil<br>Local Si<br>Match:                                                                                                                                                                          | Alignment Scores: Pred. No.: Score: Percent Similarity: Percent Scores: Query Match: DB:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2.04e-234<br>1979.00<br>100.00%<br>100.00%                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Length: Matches: Conservative: Mismatches: Indels: Gaps: | 1100<br>365<br>0<br>0<br>0                                            |  |
| <br>0-SU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -774-954                                                                                                                                                                                                                         | 1-2 (1-365)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | x US-09-333-7;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 729A-16 (1-1100)                                         |                                                                       |  |
| <br>ð                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                  | 1 MetProAla                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | aGlySerTrpAspP:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | roAlaGlyTyrLeuLe                                         | Met ProAlaGlySerTrpAspProAlaGlyTyrLeuLeuTyrCysProCysMetGlyArg 20      |  |
| <br>qa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | adderecredddaec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | decceditaccieci                                          | 9                                                                     |  |
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| <br>qu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 121                                                                                                                                                                                                                              | 1 ACCTTGGC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | TGTCCCTCCTTGGA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>TTGAGTACCAGCATCA</b>                                  | 9 6                                                                   |  |
| <br>δλ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 61                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | rTyrGlnLysTyrP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | heLysLeuGluProLe                                         | HisValSerTyrGlnLysTyrPheLysLeuGluProLeuGlnAlaTyrHisArgVallle 80       |  |
| <br>q<br>C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 181                                                                                                                                                                                                                              | 1 CATGIGIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | CTACCAGAAGTACT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | TCAAGCTGGAGCCCCT                                         |                                                                       |  |
| <br>ර් ස්                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 81                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | uAspPheMetGluL<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ysLeuAlaProThrHi<br>                                     | SericualuaspPheMetaluLysLeuhlaProfinHisTrpProfinGlulysArgVal          |  |
| <br>a<br>a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 7                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | # 1 4 Login (50 - 14 -                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                    | nivelveThrCvsProMetLvs 120                                            |  |
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| <br>OP<br>OP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 301                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CTTTGAGGTGGCAG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CCCAGCGAAGCCCHGA                                         | n                                                                     |  |

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26-No. 6100076-1997
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-No. 6100076-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/792498
FILING DATE: 31
ATYONEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 19041P
TELECOMMUNICATION INFORMATION:
TELEPRAN: 650/225-1891
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 1300 base pairs
LENGTH: 1300 base pairs
STRANDEDNESS: Single
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100.00%
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                          LeuProAspLeulysGlulleGlnArgAlaValLysLeuTrpValArgSerLeuAspAla
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                                                            LeuPheThrGlyIleSerPheSerAlaSerTyrArgGluGlnTrpSerGlnArgPheSer
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ZIP: 94080
COUNTRY: USA
COUNTRY: USA
COUNTRY: S4080
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC Compatible
COMPUTER: IBM PC COMPATION
SOFTWARE: WinPatin (Genetech)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 4, Application US/08978741

Sequence 4, Application US/08978741

Patent No. 6100076

GENERAL INFORMATION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: I DAM WAY

CITY: South San Francisco
STATE: California
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                                          LeuProAspLeuLysGluIleGlnArgAlaValLysLeuTrpValArgSerLeuAspAla
               AspTrpLysAsnAlaCysAlaMetLeuLysAspGlyThrAlaGlySerHisPheMetAla
                       Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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                                                                                                                                                                                                                                                                                             APPLICANT: Wang, Yang
APPLICANT: Wang, Yang
APPLICANT: Speliman, Michael W.
TITLE OF INVENTION: O'bloosyltransferase
FILE REFERENCE: P1041P1D1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT PILING DATE: 1997-11-26
FRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
LENGTH: 1300
                                                                                                                                                                                                                                                                      ; Sequence 6, Application US/09333729A; Patent No. 6270987; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                   CTHER INFORMATION: Plasmid insert. US-09-333-729A-6
                                                                                                                                                                                                                            2.69e-234
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ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
Query Match:
DB:
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US-09-333-729A-6
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GluHisArgProLeuGlnLysTyrMetValTrpSerAspGluMetValLysThrGlyGlu
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                                                                   AspTrpLysAsnAlaCysAlaMetLeuLysAspGlyThrAlaGlySerHisPheMetAla
                                                   LeuPheThrGlyIleSerPheSerAlaSerTyrArgGluGlnTrpSerGlnArgPheSer
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APPLICANT: Wang, Yang
APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-Fucosyltransferase
FILE REFERENCE: Pl041PID1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT APPLICATION NUMBER: US 08/798,741
PRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
LENGTH: 1514
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CORGANISM: Homo Sapien
US-09-333-729A-2
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Pred. No.:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLySLeuLeuAsnArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                       COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Winebatin (Genentech) CURENT APPLICATION DATA: APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-No. 610076-1997
CLASSIFTATION: 435
PRIOR APPLICATION NUMBER: 08/792498
FILING APPLICATION DATA: APPLICATION NUMBER: 08/792498
FILING DATE: 31
ATTORNEY/AGENT INFORMATION: NAME: Svoboda, Craig G. REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 91041P1
TELECOMMUNICATION INFORMATION: TELEPHONE: 65/225-1449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-774-954-2 (1-365) x US-08-978-741-1 (1-1514)
       GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
                                                                                STATE: Osenentech, Inc. CITY: South San Francisco STATE: California COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 1514 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Single
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Best Local Similari
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|                                                                                                                                                                                                                                                                          | RESULT 741-5  'Sequence 5, Application US/08978741  'patent No. 6100076  'patent No. 6100076  'patent No. 6100076  'patent No. 6100076  'patent No. 6100076  'patent No. 6100076  'patent No. 6100076  'patent No. 6100076  'patent No. 6100076  'patent No. 6100076  'patent No. 6100076  'patent No. 6100076  'patent No. 610076  'p | CITY: South San Francisco  STATE: California  COUNTRY: USA  ZIP: 94080  COMPUTER READABLE FORM:  MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk  COMPUTER: IBM PC compatible  COMPUTER: IBM PC compatible  COMPUTER: Minbatin (Genentech)  CURRENT APPLICATION DATA:                                                                                                                                 | ## APPLICATION NUMBER: US/08/978,741 # FILING DATE: 26-No. 6100076-1997 CLASSIPICATION: 435 # RICHARD APPLICATION DATA: # APPLICATION NUMBER: 08/792498 # ATTORNEY/AGBNT INFORMATION: # NAME: SYODOGIA, CTA149 # RECEIRENCE/DOCKET NUMBER: 99.04 # REPERRINGE/DOCKET NUMBER: P1041P1 # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION: # TELECOMMUNICATION INFORMATION INFORM | Length:<br>Marches:                                                                                                                                                                                                                                                                                                                                                                                                                  | ### Similarity: 100.00\$   Conservative: 0   Match: 100.00\$   Mismarches: 0   Match: 100.00\$   Indels: 0   100.00\$   Indels: 0   100.00\$   Gaps: 0   100.00\$   Caps: 0 |
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| Score: 1979.00 Matches: 365  Percent Similarity: 100.00% Conservative: 0  Best Local Similarity: 100.00% Mismatches: 0  Query Match: 3 100.00% Indels: 0  DB: 100.00% NS-09-333-729A-2 (1-1514)  Qy I MetProAlaGlySerTrpAspProAlaGlyTyrLeuLeuTyrCysProCysNetGlyArg 20  I | Qy         21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLySLeuLeuAsnArg 40           Db         61 TTTGGGAACCAGGCCGATCACTTCTGGGCTCTCTGGCATTTGCAAACCTTGTAACCGT 120           Qy         41 ThrLeuAlaValProProTrpIleGluTyrGlnHisHisUsProProProThrAsnLeu 60           Db         121 ACCTTGGCTGTCCTTGGATTGAGTACCAGCATCACAAGCCTCTTTCACCAACCTC 180           Qy         61 HisValSerTyrGlnLysTyrPheLysLeuGlnAlaTyrHisArgValIle 80           QY         61 HisValSerTyrGlnLysTyrPheLysLeuGlnAlaTyrHisArgValIle 80                                                                                                                                                                                                                                              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ProLyGlHisProValLeuAlaLeuProGlyAlaBroAlaGlnPheProValLeuGl 180  Oy 161 ProLyGlHisProValLeuAlaLeuProGlyAlaBroAlaGlnPheProValLeuGl 180  bb 481 CCAAAGGAACATCCGGTGCTTGCCTGCAGGAGCCCCAGCCCCGTCCTAGAA 540                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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AlaGlnLleHisAlaHisLeuValArgProTyrValGlyIleHisLeuArgIleGlySer 220   bb 601 GCCAGATTCATGCCAACTTGTCCGGCCCAATGGGCATTCACTGGCATTGGTTC 600   Oy 221 AppTrpLysAsnalaCysAlaMetLeuLysAspGlyThrAlaGlySerHisPhemetAla 240 | Qy 241 SerProdInCysValGlyTyrSerArgSerThralanlaProLeuThrMetCys 260                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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NUMBER OF SEQUENCES:
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                                                                             81 SerLeuGluAspPheMetGluLysLeuAlaProThrHisTrpProProGluLysArgVal
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                                        Sequence 7, Application US/08978741
Patent No. 6100076
GENERAL INPORMATION:
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-Fucosyltransferase
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Matches:
Conservative:
Mismatches:
                                                                                             ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
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                                                                                                                                                      COMPUTER: Lam PC COMPATIONS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-No. 6100076-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/792498
FILING DATE: 31
ATTORNEY/AGENT INFORMATION:
NAME: SVODOGA, CTAIG G.
REGISTRATION NUMBER: 91041P1
TELECOMMUNICATION NUMBER: P1041P1
TELECOMMUNICATION INPORMATION:
TELECOMMUNICATION SEQ. 189
INFORMATION FOR SEQ. 1D NO: 7:
SEQUENCE CHARACTERISTICS:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
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1844.00
100.00%
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93.18%
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TYPE: Nucleic Acid
STRANDEDNESS: Single
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Best Local Similarity:
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105-09-333-729A-8
105-09-333-729A
105-09-333-729A
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93.18%
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CORGANISM: Homo Sapien
US-09-333-729A-8
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Best Local Similarity:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    87 GluLysLeuAlaProThrHisTrpProProGluLysArgValAlaTyrCysPheGlu--- 105
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                                                                                                                                                                                                                                                                                                                                                                                         75 GATCCCAATGGCTACCTCACCTACTGTCGTGTATGGGACGCTTTGGCAACCAGGCCGAC 134
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                                        APPLICANT: Homburger et al.
APPLICANT: Homburger et al.
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
FILE REFERENCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 14353
LENGTH: 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       179 LeuGluGluHisArgProLeuGlnLysTyrMetValTrpSerAspGluMetValLysThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     199 GlyGluAlaGlnIleHisAlaHisLeuValArg---ProTyrValGlyIleHisLeuArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        669 TCTAAGGATTTCATCCGAGAGCAGTTGCCTCGGGGTGCCTTTTTGGGCATTCATCTGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                        27 HisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsnArgThrLeuAlaValProPro
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168
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118
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Matches:
Conservative:
Mismatches:
Indels:
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US-09-270-767-14353
; Sequence 14353, Application US/09270767
; Patent No. 6703491
                                                                                                                                                                               ; TYPE: DNA
; ORGANISM: Drosophila melanogaster
US-09-270-767-14353
                                                                                                                                                                                                                                              4.55e-93
837.00
61.50%
44.92%
42.29%
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Best Local Similarity:
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Barent No. 6703491

GENERAL INFORMATION:
APPLICANT Homburger et al.
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
FILE REFERENCE: File Reference: 7326-094
CURRENT FILING NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 30507
LENGTH: 722
                                                                                                                                                                                                                                                                     176 PheproValLeuGluGluHisArgProLeuGlnLysTyrMetValTrpSerAspGluMet
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                                                                                                                                                          ThrMetCysLeuProAspLeuLysGluileGlnArgAlaValLysLeuTrpValArgSer
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                                                                                                                                                                                 291 SerTyrValProGluLeuGln---GlnLeuPheLysGlyLysValLysValValSerLeu
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                                                                                                                                                                                                                                                                                                                                                                                                                             LysProGluValAlaGlnValAspLeuTyrIleLeuGlyGlnAlaAspHisPhelleGly
                       --- AGCCAGCAT
                                                                 PheMetAlaSerProGlnCysValGlyTyrSerArgSerThrAlaAlaProLeuThrMet
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729 AACGGTATCGATTGGGTGAGAGCCTGTGAGCACGTCAAGGAT
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Matches:
Conservative:
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Indels:
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; ORGANISM: Drosophila melanogaster
US-09-270-767-13022
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186.00
67.44%
47.67%
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; ORGANISM: Human
US-09-949-016-12127
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Pred. No.:
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                                                                                                                                                                                                           410 CACAAGCTGACGGAGGATGCTTACCTGGACTTGGCCATTCTCGGACAGTCGAACCAC 469
                                                                                                                                                                                                                                                                   470 TTTATCGGCAACTGTATATCCTCTTACTCGGCATTCGTAAAAAGGGAACGAGATGTGCAC 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    298 GlnLeuPheLysGlyLysValLysValValSerLeuLysProGluValAlaGlnValAsp 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  338 PheVallysArgGluArgAspLeuGlnGlyArgProSerSerPhePheGlyMetAspArg 357
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                                                                                               288 AspSerGluSerTyrValProGluLeuGln---GlnLeuPheLysGlyLysValLysVal 306
                                                                                                                                                       307 ValSerLeuLysProGluValAlaGlnValAspLeuTyrIleLeuGlyGlnAlaAspHis 326
                                                                                                                                                                                                                                                   327 PheileGlyAsnCysValSerSerPheThrAlaPheValLysArgGluArgAspLeuGln 346
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                                                                                                                                                                                                                                                                                                                                                                                       Sequence 28905, Application US/09270767

Sequence 28905, Application US/09270767

Batent No. 6703491

GENERAL INFORMATION:
APPLICANT: Homburger et al.
TITLE OF INVENTON: No.cleic acids and proteins of Drosophila melanogaster FILE REFRENCE: File Reference: 7326-094

CURRENT APPLICATION NUMBER: US/09/270,767

CURRENT APPLICATION NUMBER: US/09/270,767

SOFTWARE: Patent IN Ver. 2.0

SEQ ID NO 28905

LENGTH: 998
                                         173 AGCCAGCATCTGTTTGCCTCGCCGCAGTGCTTGGGCTATAAAATGAACGTGGTGCA---
                         255 LeuThrMetThrMetCysLeuProAspLeuLysGluileGlnArgAlaValLysLeuTrp
                                                                               ------AspAlaGlnSerValTyrValAlaThr
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Matches:
Conservative:
Mismatches:
Indels:
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US-09-270-767-28905
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                                                                               275 ValArgSerLeu------
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186.00
67.44%
47.67%
9.40%
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Best Local Similarity:
Query Match:
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US-09-270-767-28905/c
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JETTLE OF INVENTION:

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US-09-270-767-13022/c
US-09-270-767-13022/c
US-09-270-767-13022/c
Sequence 13022, Application US/09270767
Patent No. 6703491
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
TITLE OF INVENTION: NUCLEIC acids and proteins of Drosophila melanogaster
TITLE OF INVENTION: NUCLEIC acids and proteins of Drosophila melanogaster
TITLE OF STORENT APPLICATION NUMBER: 1356-094
CURRENT APPLICATION NUMBER: 10599-03-17
NUMBER OF SEQ ID NOS: 62517
SEQ ID NO 13022
SEQ ID NO 13022
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RESULT 15
US-09-949-016-16285/c

| Sequence 16285, Application US/09949016
| Patent No. 6812339
| GENERAL INFORMATION:
| APPLICANT: VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VENTER. VE
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; ORGANISM: Human
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beta-L-fucose to the serine hydroxy group of a protein acceptor. COFACTOR: Manganese. Other divalent cations increase activity: calcium, cobalt, cadmium, magnesium and nickel.

PATHWAY: Glycosylation.

MEDLINE-93364082; PubMed=8358148; Harris R.J., Spellman M.W.; "O-linked fucose and other post-translational modifications unique to

lycobiology 3:219-224(1993)

FUNCTION

EGF modules.";

ucosyltransferase."; J. Biol. Chem. 276:40338-40345(2001) [2]

FUNCTION.

MEDIINE-21523965; PubMed-11524432; DOI=10.1074/jbc.M107849200; Mang Y., Shao L., Shi S., Harris R.J., Spellman M.W., Stanley P., Haltiwanger R.S.; "Modification of epidermal growth factor-like repeats with O-fucose: molecular cloning and expression of a novel GDP-fucose protein O-

Cricetulus griseus (Chinese hamster). Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Cricetinae,

NCBI\_TaxID=10029;

SEQUENCE

Cricetulus.

MEDLINE=97175972; PubMed=9023546; Mang Y., Lee G.F., Kelley R.F., Spellman M.W.; Identification of a GDP-L-fucose:polypeptide fucosyltransferase and enzymatic addition of O-linked fucose to EGF domains.";

Glycobiology 6:837-842(1996) FUNCTION, AND GLYCOSYLATION

|            |        | P51474 astyanax ta | rattus   |        | ory    | mus        | mus        | mus    | mus        | Q9j128 mus musculu | P64166 streptococc |            | Q7yta5 leishmania |            | ,        |            |             |   |                    |                  | 7,000          | (EC 2.4.1.221) (Peptide O- |                        |
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| 059530     | Q76B90 | OPSI ASTFA         | FUT1_RAT | Q7XC59 | Q9AUT5 | FUT1 MOUSE | P97327     | Q920W4 | Q920W5     | Q9JL28             | FTSK STRPN         | FTSK_STRR6 | Q7YTA5            | ALIGNMENTS |          |            | PRT; 61 AA. |   | red)               | sequence update) | da,            | н.                         | (O-FucT-1) (Fragment). |
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                                                                                                                                                                           Gaps
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STRALT-129/5/v., TISSUB-Liver;
STRALTN=1239/65, TISSUB-Liver;
MEDLIN=2153965; PubMed-11234412; DOI=10.1074/jbc.M107849200;
Wang Y., Shao L., Shi S., Harris R.J., Spellman M.W., Stanley P.,
Haltbuanger R.S.,
"Modification of epidermal growth factor-like repeats with 0-fucose:
modification of epidermal growth factor-like protein 0-fucose.
                                                                                                                                                                                                                                                                                                                                                                                                                       28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
25-GCT-2004 (Rel. 45, Last amnotation update)
GDP-fucose protein O-fucosyltransferase 1 precursor (EC 2.4.1.221)
(Peptide O-fucosyltransferase) (O-FucT-1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
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-1- PTM: N-glycosylated.
-1- SIMILARITY: Belongs to the glycosyltransferase 68 family.
Direct protein sequencing; Pucose metabolism; Glycoprotein;
Glycosyltransferase; Manganese; Transferase.
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61 AA; 6951 MW; E9507AE60018F23A CRC64;
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J. Biol. Chem. 276:40338-40345(2001).
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STAIN-(SCFINL/G1; TISSUE-Retina; MEDLINE-9279L/G2; PubMed=10346G36; DOI=10.1016/S0076-6879(99)03004-9; Carninoi P., Hayashizaki Y.; Carninoi P., Hayashizaki Y.; Hill-1ength CDNA cloning."; Enzymol. 303:19-4(1999).
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GDP-fucose protein O-fucosyltransferase
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01-ORT-2003 (TREMBLrel. 25, Last annotation update)
Mus musculus adult retina cDNA, RIKEN full-length enriched library,
clone:A930028F21 product:protein O-fucosyltransferase 1, full insert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | RMBL, AP375885; AAL09577.1; | RMBL, BC046295; AAH46295.1; | RMGD, MGI-2135207; Portut. | RGD, MGD, MGI-2135207; Portut. | Cintegral to Golgi membrane; ISS. | GO; GO:00030173; Cintegral to Golgi membrane; ISS. | GO; GO:0001225; Pangiogenessis; IMP. | GO; GO:0007599; Pangiogenessis; IMP. | GO; GO:0007299; Pineurogenesis; IMP. | GO; GO:0007399; Pineurogenesis; IMP. | GO; GO:0007399; Pineurogenesis; IMP. | GO; GO:0007399; Pineurogenesis; IMP. | GO; GO:0007399; Pineurogenesis; IMP. | GO; GO:0007495; Pio-1nived glycosylation; ISS. | GO; GO:000756; Pisomitogenesis; IMP. | GO; GO:000756; Pisomitogenesis; IMP. | GO; GO:000756; Pisomitogenesis; IMP. | GO; GO:000756; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | Signal; Transferase; Manganese; | Signal; Transferase. | GO; GO:0007404; Pineurogenesis; IMP. | GO; GO:000756; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:0007766; Pisomitogenesis; IMP. | GO; GO:00077766; Pis
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Bukaryota, Matazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-linked (GlcNAc. . .) (Potential).
N-linked (GlcNAc. . .) (Potential).
, D982104E95E5CF3B CRC64;
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-!- COFACTOR: Manganese (By similarity).
-!- PATHWAY: Glycosylation.
-!- SIMILARITY: Belongs to the glycosyltransferase 68 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 393;
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Pred. No. 2.3e-32;
0; Mismatches 5; Indels
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STRAIN-CS7BL/G1, TISSUB-Retina;
MEDLINE-21085660; PubMed=11217851; DOI=10.1038/35055500;
RIKEN FARYOM CONSORTIUM;
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91.8%;
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Best Local Similarity 91.8
Matches 56; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
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165
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165
393 AA;
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NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                            Name=fut12;
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                         Q6EV70
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OFUL HUMAN
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SEQUENCE FROM N.A.

Adachi J., Aizawa K., Akimura T., Arakawa T., Bono H., Carninci P.,
Adachi J., Aizawa K., Akimura T., Hara A., Hashizume W.,
A Hayashida K., Hayatsu N., Hiramoto K., Hiraoka T., Hirozane T.,
A Hori F., Imotani K., Ishii Y., Itoh M., Kagawa I., Kasukawa T.,
A Katoh H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S.,
A Kurihara C., Matsuyama T., Miyazaki A., Murata M., Nakamura M.,
A Nishi K., Nomura K., Numazaki R., Ohno M., Ohsato N., Okazaki Y.,
A Saito R., Saitoh H., Sakai K., Sakai K., Sakazume N., Sano H.,
A Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M.,
Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T.,
Towart A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.;
EMBL, ACOASCO, BACCZOOO.1, -
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                                                                         SEQUENCE FROM N.A.
STRAIN=CS7BL/6J; TISSUE=Retina;
The FANTOM Consortium.
the RIKEN Genome Exploration Research Group Phase I & II Team;
the RIKEN Genome Exploration Research Group Phase I annotation of "Analysis of the mouse transcriptome based on functional annotation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M., Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.; Muramatsu M., Hayashizaki Y.; Muramatsu M., Hayashizaki Y.; Muramatsu of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes."; Genome Res. 10:1617-1630(2000).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-20530913; PubMed-11076861; DOI=10.1101/gr.152600; Shibbata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P., Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P., Sumi N., Ishii Y., Nakamura S., Hazama M., Nishinc T., Harada A., Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K., Pujiwake S., Inoue K., Togawa Y., Izawa M., Ohara E., Watshiwagi K., Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Okazaki Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y.; "RIKEN integrated sequence analysis (RISA) system-384-format Genome Res. 10:1757-1771(2000).
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91.8%; Pred. No. 2.3e-32;
.ive 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Retina;
MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  44704 MW; 1CA94CB30B85D6DC CRC64;
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                                                                                                                                                                                                                                                                            60,770 full-length cDNAs.";
Nature 420:563-573(2002).
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Best Local Similarity 91.0.
Best Local Similarity 91.0.
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Nature 409:685-690(2001)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Martinez-Duncker I., Oriol R., Mollicone R.; Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases. EMBL; AJ781499; CAH03711.1; -. GO; GO:0016757; F:transferase activity, transferring glycosyl. . .; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 RIAGSWDIAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNL
                                                                                                                                                          Rattus norvegicus (Rat).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Modification of epidermal growth factor-like repeats with O-fucose: molecular cloning and expression of a novel GDP-fucose protein O-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9H488; Q14685; Q9BW76; 28-FEB-2003 (Rel. 41, Created) 28-FEB-2003 (Rel. 41, Last sequence update) 25-OCT-2004 (Rel. 45, Last amnotation update) GDP-fucose protein O-fucosyltransferase 1 precursor (EC 2.4.1.221) (Peptide O-fucosyltransferase) (O-FucT-1).
                                                                                                                                                                                                                                                                                                                                                                                                          fucosyltransferases and alpha6-fucosyltransferases: phylogeny and identification of conserved peptide motifs.", Glycobiology 13:1C-5C(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIINE=21523965, PubMed=11524432, DOI=10.1074/jbc.M107849200;
Wang Y., Shao L., Shi S., Harris R.J., Spellman M.W., Stanley P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                        STRAIN=Wistar;
PubMed=12966037; DOI=10.1093/glycob/cwg113;
Martinez-Duncker I., Mollicone R., Candeller J.J., Breton C.,
                                                                                                                                                                                                                                                                                                                                                                                                'A new superfamily of protein-O-fucosyltransferases, alpha2-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            92.6%; Score 302; DB 2; Length 395; 90.2%; Pred. No. 5.9e-32; tive 0; Mismatches 6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. (ISOFORM 1), FUNCTION, AND INDUCTION. TISSUE=Heart;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                44983 MW; 2A85521E22F38920 CRC64;
                                         25-OCT-2004 (TrEMBLrel. 28, Created)
25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
Protein-O-fucosyltransferase 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            388 AA.
395 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            J. Biol. Chem. 276:40338-40345(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=22158633; PubMed=12168954;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Glycosyltransferase; Transferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. (ISOFORM 1). TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Name=POFUT1; Synonyms=KIAA0180;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      fucosyltransferase."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         395 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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CARBOHYD
CARBOHYD
VARSPLIC
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Matches
TISSUE-BEAIN;

XX BEDINE-BIS18823, Pubmed=12477932; DOI=10.1073/pnas.242603899;

X Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

X Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

X Strausberg R.L., Feingold E.A., Grouse L.H., Shenmen C.M., Schuler G.D.,

Alschul S.F., Zeeberg B., Buetow K.H., Shenger C.R., Bhat N.K.,

A Hopkins R.F., Jordan H., Moore T., Max S.L., Wang J., Hsieh F.X.,

A Hopkins R.F., Jordan H., Moore T., Max S.L., Wang J., Hsieh F.X.,

A Hopkins R.F., Loquellano W.B., Bonaido M.F., Carninci P., Prange C.,

A Raha S.S., Loquellano M.A., Peters G.J., Abramenon R.D., Mullahy S.J.,

Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunarane P.H.,

Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunarane P.H.,

Nilalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

Rahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

Novilalon M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

Rodriguez A.C., Grimwood J. Schmutz J., Myers R.M.,

Rodriguez A.C., Schein J.E., Jones S.J.M., Marra M.A.;

Renersel M. Schein J.E., Jones S.J.M., Marra M.A.;

Renersel M. Schein J.E., Jones S.J.M., Marra M.A.;

Renersel M. Schein J.E., Jones S.J.M., Marra M.A.;

Renersel M. Schein J.E., Jones S.J.M., Marra M.A.;

Renersel M. Schein J.E., Jones W.J.M., Marra M.A.;

Renersel M. Schein J.E., Jones W.J.M., Marra M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                            DAM KES. 3:17-24[1996].

BEQUENCE FROW N.A.

MEDLINE=21638749; PubMed=11780052; DOI=10.1038/4148653;

MEDLINE=21638749; PubMed=11780052; DOI=10.1038/4148653;

MEDLINE=21638749; PubMed=11780052; DOI=10.1038/4148653;

A Jones M., Starvides G., Almeida J.E., Burton J., Gilbert J.G.R.,

A Jones M., Starvides G., Almeida J.E., Barbage A.K., Bagquley C.L.,

Bailey J., Barlow K.F., Bales K.N., Bard L.M., Brown A.J.,

Banck D., Burtill W.D., Buller A.P., Carder C., Carrer N. P.,

Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,

Clegg S., Cobley V.E., Collier R.E., Chark L.W., Clark S.Y., Clee C.M.,

Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,

Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,

Blington A., Griffiths C., Giffiths M.N.D., Gwilliam R., Hall R.E.,

Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,

A Kay M.P., Kinberley A.M., King A., Kingths A., Laird G.K., Lawlor S.,

Lehvaeslaino M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,

Marsh V.L., Marth D., Moore M.J.F., Mullikh J.C., Nickerson T.,

Oliver K., Parker A., Patel R., Peacker T.A.V., Peck A.I.,

Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Showhken R., Shownken R., Storamer M., Scott C.E., Sehre H.K., Showhken R., Storamer M., Tromans A.C., Vaudin M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall M., Wall
Nakajima D., Okazaki N., Yamakawa H., Kikuno R., Ohara O., Nagase T., Construction of expression-ready cDNA clones for KIAA genes: manual curation of 330 KIAA cDNA clones.";

DNA Res. 9:99-106(2002).
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MEDLINE-97175972; PubMed-9023546;
Wang Y., Lee G.F., Kelley R.F., Spellman M.W.;
"Identification of a GDP-L-fucose:polypeptide fucosyltransferase and enzymatic addition of O-linked fucose to EGF domains.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rogers J.;
"The DNA sequence and comparative analysis of human chromosome 20.";
Nature 414:865-871(2001).
                                                                                                                                                                                                      TISSUB-Bone marrow;

MEDILINE-66281124; PubMed-8724849;

MEDILINE-66281124; PubMed-8724849;

Nagase T., Seki N., Ishikawa K.-I., Tanaka A., Nomura N.;

Nagase T., Seki N. Ishikawa G. Indentified human genes. V.

The coding sequences of 40 new genes (KIAA0161-KIAA0200) deduced by analysis of CDNA clones from human cell line KG-I.";

DNA Res. 3:17-24(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                  SEQUENCE OF 46-388 FROM N.A. (ISOFORM 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. (ISOFORM 2).
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-linked (GlcNAc. . .) (Potential).
N-linked (GlcNAc. . .) (Potential).
FSPKEHPULALPGAPAGPPLEBERPLOKYWWNSDEWYTG
EAQIHAHLWRPYVGIHLRIGSDWKNACAMLKUGTAGSHPMA
SPROCYGYSERTAPLITWHMCLPDLERIGPRANKLMRKELDAQ
SYVYATDSESYVPELQQLFKGKYKVKJKFRENDAG
SYVYATDSESYVPELQQLFKGKYKVKVSLKPEVAQVDLYILG
QADHFIGNCVSSFTAFVKRENDLGRRPSSFFGWNRPKIRD
EF -> RENNEXCYLLLPPR (in isoform 2).
FTIG-NSP 001809.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 84
Glycobiology 6:837-842(1996).
-!- FUNCTION: Catalyzes the reaction that attaches fucose through an
O-glycosidic linkage to a conserved serine or threonine residue in
EGF domains.
                                                                                                                      -!- CATALYTIC ACTIVITY: Transfers an alpha-L-fucosyl residue from GDP-beta-L-fucose to the serine hydroxy group of a protein acceptor.
-!- COFACTOR: Manganese.
-!- PATHWAY: Glycosylation.
-!- ALTERNATIVE PRODUCTS:
EVENTERNATIVE PRODUCTS:
EVENTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Potential.
GDP-fucose protein O-fucosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                        Isold-094488-2; Sequence=VSP_001809;
Note=No experimental confirmation available;
Note=No experimental confirmation available;
-i-TISSUE SPECIFICITY: Highly expressed in heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas.
-i-SIMILARITY: Belongs to the glycosyltransferase 68 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Match 90.5%; Score 295; DB 1; Length 388; Local Similarity 91.5%; Pred. No. 5.1e-31; les 54; Conservative 0; Mismatches 5; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Rel. 45, Created)
(Rel. 45, Last sequence update)
                                                                                                                                                                                                                                                                                                                         Name=1;
IsoId=Q9H488-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL, AF375884; AAL09576.1; -.
EMBL, B0002; BAA11497.2; -.
EMBL, AL121897; CAC16424.1; -.
EMBL, BC000582; AAH00582.1; -.
Genew; HGNC:14988; POFUT1.
H.INVDB; HIXO015724; -.
MIM; 607491; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
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OFUL PANTR
ID OFUL PANTR
AC QEEVE9;
DT 25-OCT-2004 (1)
DT 25-OCT-2004 (1)
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Glycosyltransferase; Transferase.
SEQUENCE 351 AA; 39576 MW; BF830F61A7296F42 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               378
378 AA;
                                                                                                                                                                                                                                                                                Name=pofut1;
Bos taurus (Bovine)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  391 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                       [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                       Mammalia; Eut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q7YRZ3;
                                                                                                                                                                                                               Q7YRE7;
                                                                                                                                                                                               Q7YRE7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q7YRZ3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                       Matches
                                                                                                                                                                      RESULT 8
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                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstationthe European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce) or send an email to licenseeisb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Loriol C., Germot A., Dupuy F., Maftah A.;
Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
EMBL, AX344581; AAQ02333.1; EMBL, ACCOMPANA CONDIGENTING GIYCOSYL. .; IEA.
GO; GO:0016757; F:transferase activity, transferring glycosyl. . .; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Glycobiology 13:1C-5C(2003).

-!- FUNCTION: Catalyzes the reaction that attaches fucose through an O-glycosidic linkage to a conserved serine or threonine residue in EGF domains (By similarity).

-!- CATALYTIC ACTIVITY: Transfers an alpha-L-fucosyl residue from GDP-beta-L-fucose to the serine hydroxy group of a protein acceptor.

-!- COFACTOR: Manganese (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Potential.
GDP-fucose protein O-fucosyltransferase
    25-OCT-2004 (Rel. 45, Last annotation update)
GDP-fucose protein O-fucosyltransferase 1 precursor (EC 2.4.1.221)
(Peptide O-fucosyltransferase) (O-FucT-1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostom;;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovinae; Bos.
                                                              Pan troglodytes (Chimpanzee).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.
                                                                                                                                                                                     "A new superfamily of protein-O-fucosyltransferases, alpha2-fucosyltransferases: phylogeny and identification of conserved peptide motifs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL, AJ781500; CAH03712.1; -.
Fucose metabolism; Glycoprotein; Glycosyltransferase; Manganese;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-linked (GlcNAc. . .) (Potential)
N-linked (GlcNAc. . .) (Potential)
                                                                                                                               SEQUENCE FROM N.A.
PubMed=12966037; DOI=10.1093/glycob/cwg113;
Martinez-Duncker I., Mollicone R., Candeller J.J., Breton C.,
                                                                                                                                                                                                                                                                                                                              -i- PATHWAY: Glycosylation.
-i- SIMILARITY: Belongs to the glycosyltransferase 68 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90.5%; Score 295; DB 1; Length 388; 91.5%; Pred. No. 5.1e-31; Live 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3FACCCA434D02415 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   351 AA
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01-OCT-2003 (TrEMBLrel. 25, Last seq
01-WAR-2004 (TrEMBLrel. 26, Last ann
Protein O-fucosyltransferase lb.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  388 AA; 43955 MW;
                                                 Name=POFUT1; Synonyms=FUT12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       54; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
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388
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Signal, Transferase. SIGNAL 1
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Best Local Similarity
Matches 54; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62
                                                                                                     NCBI_TaxID=9598;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Name=pofut1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CARBOHYD
                                                                                                                                                                           Oriol R.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  O7YRE6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q7YRE6
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EMBL, A3567917, CAD99201.1, -.
GO; GO:0016757; F:transferase activity, transferring glycosyl. . .; IEA.
Glycosyltransferase; Transferase.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                       4 GSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                                     30 GSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNVH 87
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                                                         Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=POFUT1;
Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Loriol C., Germot A., Dupuy F., Maftah A.;
Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AY344580; AAQ02332.1; -
GO; GO:0016757; F:transferase activity, transferring glycosyl.
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88.3%; Score 288; DB 2; Length 351; 89.7%; Pred. No. 4e-30; ive 1; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 288; DB 2; Length 391;
Pred. No. 4.5e-30;
1; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Glycosyltransferase; Transferase.
SEOHENCE 391 AA: 44307 MW; 96762AB81A2027AD CRC64;
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Last annotation update)
                                                                                                                                                                                                                                                                                                                                           01-OCT-2003 (TrEMBLrel. 25, Created)
01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
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Pred. No. 8e-30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Identification of conserved peptide motifs.";
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                                                                                                                                                                                                                                                                                                391 AA
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01-0CT-2003 (TrEMBLrel. 25, Last seq
01-MAR-2004 (TrEMBLrel. 26, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
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89.7%;
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                                                              52; Conservative
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PRELIMINARY;
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                                                                                                                                                                                                         Xenopodinae; Xenopus.
NCBI_TaxID=8364;
                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
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25-OCT-2004 (
25-OCT-2004 (
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Matches
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                                                                      RESULT 12
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Submitted (UDL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL, AJ781503; CAH03714.1. -.
GO, GO:0016757; F:transferase activity, transferring glycosyl. . .; IEA.
Glycosyltransferase; Transferase activity, transferring glycosyl. . .; IEA.
SEQUENCE 391 AA; 44277 MW; 4E047D6BB5CDF7FA CRC64;
                                     22 AVSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 80
                       3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4 GSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30 GSWNPAGYLLFCPCMGRFGNQADHFLGSLAFAPLMNRTLAVPPWIEYQHHKPPFTNVH 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gallus gallus (Chicken).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Archosauria, Aves, Neognathae, Galliformes, Phasianidae, Phasianinae,
0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Gaps
                                                                                                                                                                                                                                                                            PubMed=12566037; DOI=10.1093/glycob/cwg113; Martinez-Duncker I., Mollicone R., Candeller J.J., Breton C., Oriol I. Man superfamily of protein-O-fucosyltransferases, alpha2-fucosyltransferases and alpha6-fucosyltransferases; phylogeny and identification of conserved peptide motifs.";
                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 391,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match

Query Match

93.4%; Score 272; DB 2; Length 380;
Best Local Similarity 79.7%; Pred. No. 6.16-28;
Matches 47; Conservative 6; Mismatches 6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
83.7%; Score 273; DB 2; Length 39:
Best Local Similarity 84.5%; Pred. No. 4.6e-28;
Matches 49; Conservative 3; Mismatches 6; Indels
6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Oriol R.; Submitted (DEC-2002) to the EMBL/GenBank/DDBJ databases. EMBL; 433535754; CAD59738.1; -. Hypothetical protein. SEQUENCE 380 AA; 43316 MW; 83B53B342511811B CRC64;
                                                                                                                                    25-OCT-2004 (TrEMBLrel. 28, Last sequence update) Protein-0-fucosyltransferase 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last sequence update)
Last annotation update)
                                                                                                          391 AA
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0; Mismatches
                                                                                                          PRT;
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01-WAR-2003 (TrEMBLrel. 23, Last seq
01-WAR-2003 (TrEMBLrel. 23, Last ann
Hypothetical protein POFUT1.
                                                                                                                                   Created)
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                                                                                                                                (TrEMBLrel. 28, (TrEMBLrel. 28,
 53; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                          PRELIMINARY;
                                                                                                                                                                                  Name=fut12;
Bos taurus (Bovine).
                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                             NCBI_TaxID=9913;
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NCBI_TaxID=9031;
                                                                                                                                                                                                                                 Bovinae; Bos
                                                                                                                                   25-OCT-2004
                                                                                                          Q6EV66
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Q8AWB4
 Matches
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                                             18 AGSWDTAGYLLYCPCMGRFGNQAEHFLGALAFARALNRTLAVPPWIEYRHHRPPYTNLH 76
3 AGSWDLAGYLLYXPXMGRFGNOADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-007-2004 (TrEMBLrel. 28, Created)
25-007-2004 (TrEMBLrel. 28, Last sequence update)
25-007-2004 (TrEMBLrel. 28, Last annotation update)
Hypothetical protein.
Xenopus tropicalis (Western clawed frog) (Silurana tropicalis).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi, Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6 WDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH
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Name=fut12;

Kenopus tropicalis (Western clawed frog) (Silurana tropicalis).

Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Eutelcostomi;

Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Klein S., Gerhard D.S.;
Submitted (GEP-2004) to the EMBL/GenBank/DDBJ databases.
EMBL: BC082519, AAH82519.1; -.
Hypotherical protein.
SEQUENCE 380 AA, 43570 MW; 8BB938CE776D5238 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
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(TrEMBLrel. 28, Last sequence update)
(TrEMBLrel. 28, Last annotation update)
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Search completed: October 25, 2005, 15:35:24 Job time : 36.1971 secs
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                                                          Martinez-Duncker I., Oriol R., Mollicone R.;
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
BMBL; AJ1498; CAH03710.1;
GO; GO; 0016757; Fitransferase activity, transferring glycosyl. . .; IEA.
InterPro; IPR000886; ER target S.
FROSITE; FS000014; ER_TARGET; UNKNOWN_I.
Glycosyltransferase; Transferase.
SEQUENCE 396 AA, 45056 MW; F90504E19507073F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . .; IEA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Name=pofutl; Synonyme=futl2;
Brachydanio rerio (Zebrafish) (Danio rerio).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
NCBI_TaxID=7955;
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                                                                                                                                                                                                                                                                                 61
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes;
Interadontoidea; Tetraodontidae; Takifugu.
NCBI_TaxID=31033;
                                                                                                                                                                                                                                                                                6 WDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (UUL-2003) to the EMBL/GenBank/DDBJ databases.
EMBL, AJ579536; CAE18459.1; -.
ZFIN; ZDB-CENE-040303-2; pofutl.
GO; GO:0016922; F:peptide-O-fucosyltransferase activity; IEA.
GO; GO:0016757; F:transferase activity, transferring glycosylt.
Glycosyltransferase; Transferase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
Martinez-Duncker I., Mollicone R., Candelier J.J., Breton C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                76.4%; Score 249; DB 2; Length 395; ilarity 75.4%; Pred. No. 7.9e-25; Conservative 5; Mismatches 9; Indels
                                                                                                                                                                                                               Length 396;
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GDP-fucose protein O-fucosyltransferase 1 (EC 2.4.1.221).
                                                                                                                                                                                                             Query Match 76.7%; Score 250; DB 2; Length 39 Best Local Similarity 75.0%; Pred. No. 5.8e-25; Matches 42; Conservative 6; Mismatches 8; Indels
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05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                  395 AA.
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     Xenopodinae; Xenopus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 43; Conserv
                                                 SEQUENCE FROM N.A.
               NCBI_TaxID=8364;
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Q7T028
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                                                                                                                                                                                                                                                                                                                                                                                      6 WDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH
                          Martinez-Duncker I., Mollicone R., Candelier J.J., Oriol R.;
Submitted (NOV-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ606070; CAE54305.1; -.
GO; GO:001677; F:transferase activity, transferring glycosyl.
InterPro; IPR000886; ER target S.
PROSITE; PS00014; ER_TARGET; UNKNOWN_1.
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                                                                                                                                                                                                                                                                    75.8%; Score 247; DB 2; Length 384; 76.8%; Pred. No. 1.4e-24; Live 5; Mismatches 8; Indels
                    ., Mollicone R., Candelier J.J., Oriol s) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                     43650 MW; 7CAA6ADC90F40032 CRC64;
                                                                                                                                                                                           Glycosyltransferase; Transferase.
SEQUENCE 384 AA; 43650 MW; 70
                                                                                                                                                                                                                                                                                                                                       43; Conservative
                                                                                                                                                                                                                                                                                                          Best Local Similarity
SEQUENCE FROM N.A.
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| 305 93.6 614 6 BY752500<br>305 93.6 634 2 BB61131<br>305 93.6 641 2 BB611933<br>305 93.6 650 6 BY72497<br>305 93.6 661 2 BB642654<br>305 93.6 664 6 BY728337<br>305 93.6 695 2 BB617910<br>305 93.6 915 5 BQ366334<br>305 93.6 915 5 BQ366334 | 5 B0964179 B0964179 3 AK037857 AK037857 3 AK04629 CK366990 7 CK366990 AK081059 3 BY322240 BY322240 7 CK543310 CK543310 7 CK348927 CK348927 5 BE26136 BE26136 2 BE262956 BE26136                                                                                           | 295 90.5 610 1 ALSSS719 295 90.5 610 1 ALSSS719 295 90.5 699 1 AU13735 295 90.5 705 7 CN348925 295 90.5 753 4 BG424731 295 90.5 790 4 BG51639 295 90.5 889 4 BIS24031 295 90.5 899 5 BK345989 295 90.5 899 5 BK345989 | 295 90.5 919 5 BUI55142 BUI55142 295 90.5 942 7 CO774833 CO774833 296 90.5 950 4 BI199190 BI20030 295 90.5 955 2 BE260030 CR617950 295 90.5 1555 3 CR617950 CR617950 295 90.5 1711 2 BF206548 BF206548 ALIGNMENTS                                                                                                                                                                                                                                                                                                                              | RESULT 1  RESTULT 1  RET778150  RY778150  RY77 | Alzawa, K., Saito, R., Osato, N., Fukuda, S., Sato, K., Watahiki, A., Suigahara, Y., Saito, R., Osato, N., Pukuda, S., Sato, K., Watahiki, A., Hirozane-Kishikawa, T., Nakamura, M., Shibata, Y., Yasunishi, A., Kikuchi, N., Yoshiki, A., Kusakabe, M., Gustinoich, S., Beisel, K., Pavan, W., Aidinis, V., Nakagawara, A., Held, W.A., Fagiolini, M., Nakauth, H., Lyona, P., Walls, C., Hume, D.A., Fagiolini, M., Hensch, T.K., Brinkmeier, M., Camper, S., Hirota, J., Mombaerts, P., Muranteu, M., Okazaki, Y., Kawai, J. and Hayashizaki, Y. Targeting a complex transcriptome: the construction of the mouse full-length cDNA encyclopedia JOURNAL Genome Res. 13 (6B), 1273-1289 (2003)  MEDLINE 2703353  PUBMED Contact: Yoshihide Hayashizaki  Contact: Yoshihide Hayashizaki  Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), Yokohama Institute  Sciences Center (GSC), Yokohama Institute The Institute of Physical and Chemical Research (RIKEN)  1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan Tel: 81-45-503-922                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GenCore version 5.1.6  Copyright (c) 1993 - 2005 Compugen Ltd.  OM protein - nucleic search, using frame_plus_p2n model  Run on: October 26, 2005, 05:59:38 ; Search time 1065.43 Seconds                                                     | Title: US-09-774-954-3 Perfect score: 326 Sequence: 1 RLAGSWDLAGYLLYXPXMGRLAVPFWIEYQHHKPPFTNLH 61 Scoring table: BLOSUM62 Xgapop 10.0, Xgapext 0.5 Ygapop 10.0, Ygapext 0.5 Ygapop 0.0, Ygapext 0.5 Ygapop 0.0, Ygapext 0.5 Ygapop 0.0, Ygapext 0.5 Delop 0.0, Delext 7.0 | 544 seqs, 19032134 satisfying chosen : 0 . 20000000000                                                                                                                                                                | Command line parameters:  Command line parameters:  -MODEL=frame+ p2n.model -DEV=x1h -Q=/cgn2_1/USPTO_spool h/US09774954/runat_25102005_105432_6406/app_query.fasta_1.917 -DB=SST -QFMT=fastap -GFMT=xERS - MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0 -UMITS-bits -START=1 -EMD=-1 -MATRIX-blosum62 -TRANS=human40.cdi -LIST=45 -DOCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE-LOCAL -UNTWHT=PD-NORM=SXX -HRAPSIZES=500 -MINLEN=0 -MAXIEN=2000000000 -USFRR=10509774554_GCSN 1 15334_@runat_25102005 105432_6406 -NCPU=6 -ICPU=3 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.           SUMMARIES           Result         Cover Match Length DB ID           1         305         93.6         318         6         BY778150         BY778153         BY728132         BY7 |

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1.01e-31
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Pred. No.:
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Mus musculus (house mouse)

Mus musculus

ENARATVOER,

Mus musculus

ENARATVOER,

Musculus

Brakaryoers,

Rodentia, Sciurognathi; Muridae, Murinae; Mus.

E. I (baess 1 to 333)

Rodentia, Sciurognathi; Muridae, Murinae; Mus.

E. I (baess 1 to 333)

Rodentia, Saito, R., Suzuki, H., Yamanaka, I.,

Nikaldo, I., Osato, N., Saito, R., Suzuki, H., Yamanaka, I.,

Kiyosawa, H., Yagi, K., Tomaru, Y., Hasegawa, Y., Nogama, A.,

Schonbach, C., Corjobori, T., Blake, J. H., Hill, D. P., Bult, C.,

Schonbach, S., Beisel, K., Brack, D., Brusto, V.,

Rapalalo, S., Beisel, K., Blake, J. R., Bradt, D., Brusto, V.,

Chothia, C., Corbani, D.E., Coursins, S., Dalla, B., Dragani, T.A.,

Fletcher, C. P., Forrest, A., Frazer, K.S., Gasterland, T.,

Gariboldi, M., Gassi, C., Godzik, A., Gough, J., Grimond, S.,

Gustincich, S., Hirokawa, N., Jackson, I.J., Jarvis, E., Konagaya, A.,

Kawaji, H., Kawasawa, Y., Kedzierski, R.M., King, B.L., Konagaya, A.,
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           Email: genome-reseasc.riken.jp, URL:http://genome.gsc.riken.jp/
CDNA library was prepared and sequenced in Mouse Genome
Encyclopedia Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in RIKEN.
Division of Experimental Animal Research in Riken contributed to
prepare mouse tissues.
Please visit our web site (http://genome.gsc.riken.jp/) for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1. .318
/organism="Mus musculus"
/organism="mixa"
/mol type="mixa"
/strain="c57BL/6J"
/db xref="taxon:10090"
/clone="L930123017"
/fissue_type="whole body"
/dev_stage="17.5 days embryo"
/clone lib="RIKEN full-length enriched, 17.5 days embryo
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Mundate, N. Okdor, T. Panhard, B. L., WRich, H. Nagashina, P. Numate, K. Okdor, T. Parkani, B. L., Wrich, H. Nagashina, P. Numate, K. Okdor, T. Parkani, M. J. Partea, G. Pacele, G. J. Parkani, M. J. Pacele, G. Mannata, M. Okdor, T. Parkani, M. J. Pacele, G. Mannata, M. Okdor, T. Parkani, M. J. Pacele, G. Mannata, M. Pathard, J. Pacele, G. Mannata, M. Panhard, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. J. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mannata, M. Mann
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Stokazaki, Y. Furno, M. Kasukawa, T., Adachi, J., Bono, H., Kondo, S., Nikaido, I., Osato, N., Saito, R., Suzuki, H., Yamanaka, I., Kiyosawa, H., Yagi, K., Tomaru, Y., Hasegawa, Y., Nogami, A., Schonbach, C., Golobori, T., Baldarelli, R., Hill, D. P., Bult, C., Hume, D.A., Quackenbush, J., Schriml, L.M., Kanapin, A., Matsuda, H., Batalov, S., Beisel, K., W., Blake, J.A., Bradt, D., Brusic, V., Chothia, C., Corbani, L. B., Cousins, S., Dalla, E., Dragani, T.A., Fletcher, C.F., Forrest, R.A., Gassterland, T., Gariboldi, M., Gissi, C., Godzik, A., Gough, J., Grimmond, S., Rickaji, K., Kadajik, A., Gaugh, J., Grimmond, S., Kawaji, H., Kawasawa, Y., Kedzierski, R.M., King, B.L., Konagaya, A., Kawaji, H., Kawasawa, Y., Kedzierski, R.M., King, B.L., Konagaya, A., Kurochkin, I.V., Lee, Y., Lenhard, B., Lyons, P.A., Maglott, D.R., Numata, K., Okido, T., Paran, W.J., Pertea, C., Pectrovsky, N., Pellais, L., McKenzie, L., Miki, H., Nagashima, T., Numata, K., Okido, T., Paran, W.J., Pertea, C., Pectrovsky, N., Pillai, R., Pontius, J.U., Qi, D., Ramachandran, S., Ravasi, T., Reed, J.C., Reed, D.J., Reid, J., Ring, B.Z., Ringwald, M., Sandellar, R., Pollais, R., Pollais, R., Pollais, R., Pollais, R., Wandlas, Y., Taskenaka, Y., Taskenaka, Y., Taskenaka, Y., Taskenaka, Y., Taskenaka, Y., Taskenaka, Y., Taskenaka, Y., Wallais, R., Yang, L., Yuan, Z., Zavolan, M., Zhu, Y., Zimmer, A., Hashizume, N., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Sato, K., Shiradk, Y., Rogers, J., Birney, E. and Hayashizaki, Y., Ragawa, I., Miyazaki, A., Yashizaki, Y., Ragawa, I., Miyazaki, Y., Sato, K., Sato, K., Shiradka, Y., Sato, K., Shiradka, Y., Yashisaki, Y., Yashisaki, Y., Yashisaki, Y., Yashisaki, Y., Yashisaki, Y., Y
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The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan Tel: 81-45-503-9222
                                                                                                                                                                                                                                            91 CGGTCAGCGGGGTCCTGGGACCTGGCCGGTTACCTGCTCTACTGTCCCTGCATGGGGCGC 150
                                                                                                                                                                                                                                                                                                                                                                                        211 ACCTIGGCIGTACCTCCATGGATTGAATACCAACATCACAAGGCCTCCTTTCACCAACCTC 270
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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Mismatches:
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                                                                                                                                        US-09-774-954-3 (1-61) x BY175344 (1-333)
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   93.44%
93.56%
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COMMENT
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ACCESSION VERSION KEYWORDS SOURCE

RESULT 3 BY328132

REFERENCE AUTHORS JOURNAL

TITLE

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Fax: 0.1-3-20-3-12.

Enail: genome-res@gsc.riken.jp, URL:http://genome.gsc.riken.jp/
Aizawa,K., Akimura,T., Arakawa,T., Carninci,P., Fukuda,S.,
Hirozand,Y., Imbili,Y., Itahi,Y., Titch,M., Kawai,J., Konno,H.,
Miyazaki,A., Murata,M., Nakamura,M., Nomura,K., Numazaki,R.,
Ohno,M., Sakai,K., Sakazume,N., Sasaki,D., Sato,K., Shibata,K.,
Shiraki,T., Tagami,M., Waki,K., Watahiki,A., Muramateu,M. and
Hayashizaki,Y. Direct Submission
Computational Analysis of Full-Length Mouse cDNAs Compared with
Human Genome Sequences Mamm. Genome. 12, 673-677 (2001)
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new
genes. Genome Res. 10 (10), 1617-1630 (2000)
RIKEN integrated sequence analysis (RISA) system-384-format
sequencing pipeline with 384 multicapillary sequencer. Genome Res.
10 (11), 1757-1771 (2000)
Computer-based methods for the mouse full-length cDNA
encyclopedia: real-time sequence clustering for construction of a
nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001)
CDNA library was prepared and sequence din Musue Genome
Encyclopedia Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Exploration in Riken
Division of Experimental Animal Research in Riken contributed to
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BB633858
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Tissues were provided by Vassilis Aidinis ( Biomedical Sciences Tissues were provided by Vassilis Aidinis ( Immunology 14-16 Al. Research Center 'Al. Fleming' Institute of Immunology 14-16 Al. Fleming street 16672 Vari, Greece ) whose assistance we gratefully acknowledge.
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/clone lib="RIKEN full-length enriched, synovial
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/organism="Mus musculus"
/mol_type="mxNx"
/db_xref="taxon:10090"
/clone="L130001N19"
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REFERENCE AUTHORS

VERSION KEYWORDS SOURCE

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Contract: Yoshihide Hayashizaki
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Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
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17-21 81-45-503-9226
Fax: 81-45-503-9226
Fax: 81-45-503-9216
Email: genome-resegec.riken.jp, URL:http://genome.gsc.riken.jp/
Carninci, P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K.,
Itch,M., Komno,H., Okazaki,Y., Muramatu,M., and Hayashizaki,Y.
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare Genome Res. . 10 (10), 1617-1630 (2000)
genes. Genome Res. . 10 (10), 1617-1630 (2000)
wagi,K., Pujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E.,
Watahiki,M., Yoneda,Y., Ishikawa,T., Ozawa,K., Tanaka,T.,
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SM Mus musculus

Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Bukaryota, Metazoa; Chordata; Sciurognathi; Muridae; Murinae;

E I (bases 1 to 48)

S Akimura, T., Arakawa, T., Carninci, P., Furuno, M., Hanagaki, T.,

Hayatsu, N., Hiramoto, K., Hiraoka, T., Hirozane, T., Inotani, K.,

Ishii, Y., Ito, M., Kawai, J., Kojima, Y., Konno, H., Kouda, M.,

Matsuyama, T., Nakamura, M., Nishi, K., Nomura, K., Numasaki, R.,

Sazaki, T., Sato, K., Saito, R., Sakai, C., Sakai, K., Sakazume, N.,

Sagabe, Y., Suzuki, H., Tagawa, A., Takaku-Akahira, S.,

Tamaka, T., Tomaru, A., Toya, T., Watahiki, A., Yasunishi, A.,

Muramatsu, M. and Hayashiazaki, Y.,

RIERN Encyclopedia of Mouse Full-length CDNAS (Akimura, T., et al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BB851550 RIKEN full-length enriched, Bl6 Fl0Y cells Mus musculus cDNA lone G370002F02 5', mRNA sequence.
BB851550 GI:17093004
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                                                                                                                                                                                                                                                     Mammala, Eucheria; Kodentla; Sciutognath; Murinae; Mus.

Rakawa,T., Carninci,P., Fukuda,S., Furuno,M., Hanagaki,T.,
Haranco,K., Hori,P., Ishii,Y., Ito,M., Kawai,J.,
Konno,H., Koda,M., Koya,S., Matsuyama,T., Miyazaki,A., Nomura,K.,
Konno,H., Sabaki,D., Shibata,K., Shicaki,C., Sakai,K.,
Sano,H., Sabaki,D., Shibata,K., Shinagawa,A., Shiraki,T.,
Sogabe,Y., Suruki,H., Tagawa,A., Takahashi,F.,
Takeda,Y., Tanaka,T., Toya,T., Muramateu,M. and Hayashizaki,Y.
RIKEN Mouse ESTS (Arakawa,T., et al. 2001)

Unpublished (2001)

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Fax: 81-45-503-9212

Fax: 81-45-503-9212

Fax: 81-45-503-9216

Email: genome-reseggsc.riken.jp, URL:http://genome.gsc.riken.jp/
Carnincip. M., Konno,H., Okazaki,Y., Muramateu,M. and Hayashizaki,Y.

Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length CDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000)

wagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Tanaka,T., Matsulra,S., Kawai,J., Okazaki,Y., Muramateu,M., Inoue,Y., Kira,A., And Hayashizaki,Y.

Matsulra,S., Kawai,J., Okazaki,Y., Muramateu,M., Inoue,Y., Kira,A., And Hayashizaki,Y.

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10 (11), 1757-1771 (2000)

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                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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FEATURES

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Piao,Y., Ko,N.T., Lim,M.K. and Ko,M.S.H. Construction of long-transcript enriched cDNA libraries from submicrogram amounts of total RNAs by a universal PCR amplification method
Matsuura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and Hayashizaki, Y.
RIKEN integrated sequence analysis (RISA) system--384-format
RIKEN integrated sequence analysis (RISA) system--384-format
sequencing pipeline with 384 multicapillary sequencer. Genome Res.
10 (11), 1757-1711 (2000)
Konno, H., Fukunishi, Y., Shibata, K., Itoh, M., Carninci, P.,
Sugahara, Y. and Hayashizaki, Y. enuse full-length cDNA
computer-based methods for the mouse full-length cDNA
encyclopedia: real-time sequence clustering for construction of a
nonredundant cDNA library. Genome Res. . 11 (2), 281-289 (2001)
Please visit our web site (http://genome.gsc.riken.go.jp) for
further details.
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National Institute on Aging/National Institutes of Health
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                                                                                                                                                                                                                                                                                                                  /organism="Mus musculus"
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s'-pdACTAGTAGAGCGGCGCCCTTTTTTTTTTTTTTTTTTT-3'] from 0.2 ug of total RNA, treated with T4 DNA polymerase, and 0.2 ug of total RNA, treated with T4 DNA polymerase, and purified by ethanol-precipitation. The cDNAs were ligated to Lone-linker LL-Sal4, purified by phenol/chloroform, and separated from free linkers by Centricon 100. Then, the cDNAs were amplified by long-range high fidelity PCR using Ex Taq polymerase (Takara) with a primer Sal4-S. The products were purified by phenol/chloroform and Centricon 100. The cDNAs were digested with SalI and NotI enzymes and cloned into SalI/NotI site of pSPORTI plasmid vector. The DH10B E. coli host was transformed with the ligation mixture by the standard chemical method: The average insert size is about 2.2 kb. The library was constructed by Yulan Piao (NIA)."
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DEFINITION BB618795 RIKEN full-length enriched, 8 days embryo Mus musculus
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333 Cassell Drive, Suite 4000, Baltimore, MD 21224-6820, USA
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                                              Email: cdna@lgsun.grc.nia.nih.gov
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Londact: Yoshihde Hayashizaki
Londact: Yoshihde Hayashizaki
Laboratory for Genome Exploration Research Group, RIKEN Genomic
Sciences Center(GSC), Yokohama Institute
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Tel: 81-45-503-9215
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Email: Genome-reseages.riken.jp, URL:http://genome.gsc.riken.jp/
Carninci, P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K.,
Itoh,M., Konno,H., Okazak,Y., Muramatau,M. and Hayashizaki,Y.
Normalization and subtraction of cap-trapper-eelected cDNs to
prepare full-length cDNA libraries for rapid discovery of new
genes. Genome Res. .10 (10), 1617-1630 (2000)
wagi,K., Fujiwake,S., Innoue,K., Togawa,Y., Izawa,M., Ohara,E.,
Watshiki,M., Yoneda,Y., Ishikawa,T., Ozawa,K., Tanaka,T.,
Matsuura,S., Kawai,J., Okazaki,Y., Muramatau,M., Inoue,Y., Kira,A.
and Hayashizaki,Y.
RIKEN integrated sequence analysis (RISA) system-384-format
sequencing pipeline with 384 multicapillary sequencer. Genome Res.
10 (11), 175-1771 (2000)
Konno,H., Fukunishi,Y., Shibata,K., Itch,M., Carninci, P.,
Sugahara,Y. and Hayashizaki,Y.
Anamanaka,T., Kiyosawa,H., Kondo,S., Saito,T., Shibata,K.,
Arawa,K., Tehda,S., Hara,A., Itch,M., Kawai,J., Shibata,K.,
Makawa,T., Ishii,Y. and Hayashizaki,Y.
Mapping of 19032 mouse cDNAs on mouse chromosomes. J. Struct.
Func. Genomics 2 pre, L72-L86 (2001
Func. Genomics 2 pre, L72-L86 (2001
Func. Genomics 2 pre, L72-L86 (2001
Func. Genomics 2 pre, L72-L86 (2001
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Mus musculus
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae, Murinae; Mus.
(Dases 1 to 604)
Arakawa, T., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T.,
Konno, H., Hirancto, K., Hori, F., Ishii, Y., Ito, M., Kawai, J.,
Konno, M., Okazaki, Y., Okido, T., Saito, R., Sakai, C., Sakai, K.,
Sano, H., Sasaki, D., Shibata, R., Shinagawa, A., Shiraki, T.,
Sogabe, Y., Suzuki, H., Tagami, M., Tagawa, A., Shiraki, T.,
Sogabe, Y., Tanaka, T., Toya, T., Muramatsu, M. and Hayashizaki, Y.
RIKEN Mouse ESTS (Arakawa, T., et al. 2001)
clone 5730432G02 5', mRNA sequence.
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SET.

Mus musculus (house mouse)

Mus musculus (house mouse)

Mus musculus butheria, Rodentia, Sciurognathi; Muridae, Murinae, Musculus Butheria, Rodentia, Sciurognathi; Muridae, Murinae, Musculus Elakaryota, Metazoa, Chordata, Ciurognathi; Muridae, Murinae, Musculus I. (hoses I to 665)

Rodentia, C. Osato, M., Saito, R., Suzuki, H., Yamanaka, I., Kindo, I., Osato, M., Saito, R., Buth, H., Mananaka, I., Kindackenbush, J., Schinal, L., Kondo, R., Batsel, K., Tomaru, Y., Haden, H., Nogami, A., Schonbach, C., Gojobori, T., Baldarelli, R., Hill, D.P., Bult, C., Edonbach, C., Gojobori, T., Baldarelli, R., Hill, D.P., Bult, C., Ratal, C., Grobani, L.B., Contain, S., Batsel, R., W., Batsel, R., W., Batsel, R., W., Batsel, R., W., Batsel, R., W., Batsel, R., W., Batsel, R., W., Batsel, R., W., Batsel, R., Corbani, L.B., Corbani, L.B., Corbani, L.B., Corbani, L.B., Corbani, L.B., Gough, J., Grimmond, R., Rawaji, H., Kawasawa, Y., Raden, M., Jarvis, B.D., Konagaya, A., Kawaji, H., Kawasawa, Y., Lehnard, B., Loons, P.A., Maglott, D.R., Maltais, L., Marchionni, L., McKenzie, L., Miki, H., Nagashima, T., Mattais, L., Marchionni, L., McKenzie, L., Mattais, L., Marchionni, L., Pertea, G., Peecole, C., Sthianada, K., Okido, T., Pavan, W., Sthianada, M., Sthialas, R., Takenaka, Y., Pavan, M., Stanadis, M., Sato, K., Shilata, M., Vang, I., Walls, C., Willming, L.G., Wholester, C., Sequi, M., Shiana, M., Sato, K., Shiat, K., Sasaki, K., Sasaki, K., Isanaka, K., Itoh, M., Kagawa, T., Manhaba, Boris, A., Yanaqisawa, M., Shibata, K., Itoh, M., Kagawa, T., Manhaba, Sato, K., Shiata, M., Sato, K., Bata, A., Hashizume, W., Imotani, Y., Itoh, M., Kagawa, T., Yoshino, M., Waterston, R., Lander, B.S., Shinagawa, A., Yasunishi, A., Yasunishi, W., Vasunishi, Waterston, R., Lander, R., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., 
BY728018 RIKEN full-length enriched, 10 days neonate cerebellum Mus musculus cDNA clone B930076G19 5', mRNA sequence.

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Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000)
RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 175-1771 (2000)
Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001)
CDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN.
                                                                                                                                                                                                                      1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
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Fax: 81-45-503-9216
Rogers, J., Birney, E. and Hayashizaki, Y. Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs Nature 420, 563-573 (2002)
                                                                                                                                                                                                                                                                                      Bmail: genome-res@gsc.riken.jp, URL:http://genome.gsc.riken.jp/
Adachi,J., Aizawa,K., Akimura,T., Arakawa,T., Carninci,P.,
Pukuda,S., Hashizume,W., Hayashida,K., Hirozane,T., Hori,F.,
Imotani,K., Ishii,Y., Itoh,M., Kagawa,I., Kawai,J., Kojima,Y.,
Rondo,S., Konno,H., Koya,S., Miyazaki,A., Murata,M., Nakamura,M.,
Nomura,K., Numazaki,R., Ohno,M., Ohsato,N., Saito,R., Sakazume,N.,
Sano,H., Sasaki,D., Sato,K., Shibata,K., Shiraki,T., Tagami,M.,
Direct Submission
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Laboratory for Genome Exploration Research Group, RIKEN Genomic
Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
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FEATURES

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BB623905 RIKEN full-length enriched, adult male adrenal gland Mus musculus CDNA clone 7330430107 5', mRNA sequence.
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases I to 611)
Arakawa, T., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T.,
Hara, A., Hiramoto, K., Hori, F., Ishii, Y., Ito, M., Kawai, J.,
Konno, H., Kouda, M., Koya, S., Matsuyama, T., Miyazaki, A., Nomura, K.,
Ohno, M., Okazaki, Y., Okido, T., Saito, R., Sakai, C., Sakai, K.,
Sano, H., Saaaki, D., Shibata, K., Shinagawa, A., Shiraki, T.,
Sogabe, Y., Suzuki, H., Tagami, M., Tagawa, A., Takahashi, F.,
Takeda, Y., Tanaka, T., Toya, T., Muramatsu, M. and Hayashizaki, Y.
Unpublished (2001)
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Laboratory for Genome Exploration Research Group, RIKEN Genomic
Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-che, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
Tel: 81-45-503-9222
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Carninoi,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K.,
Itoh,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y.
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new
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wagi,K., Pujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E.,
Matsulki,M., Yoneda,Y., Ishikawa,Y., Ozawa,K., Tanaka,T.,
and Hayashizaki,Y., Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A.
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Komno, H., Fukunishi, Y., Shibata, K., Itoh, M., Carninci, P., Sugahara, Y. and Hayashizaki, Y.
Computer-based methods for the mouse full-length cDNA cnyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. . 11 (2), 281-289 (2001)
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                                                                                                                                                                                                                                                                            1 ArgLeuAlaGlySerTrpAspLeuAlaGlyTyrLeuLeuTyr****Pro***MetGlyArg
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Mus musculus
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VERSION
KEYWORDS
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                                                                                                                                                                                                                                                          BY752500 614 bp mRNA linear EST 17-DEC-2002 BY752500 RIKEN full-length enriched, 9.5 days embryo parthenogenote Mus musculus cDNA clone B130006A17 5', mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeu***ValArg 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ArgleuAlaGlySerTrpAspleuAlaGlyTyrLeuLeuTyr***Pro***MetGlyArg 20
Kondo,S., Shinagawa,A., Saito,T., Kiyosawa,H., Yamanaka,I., Alizawa,K., Eukuda,S., Hara,A., Itch,M., Kawai,J., Shibata,K. and Hayashizaki,Y.
Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences. Mamm. Genome. 12, 673-677 (2001)
Flease visit our web site (http://genome.gsc.riken.go.jp) for further details.
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Matches:
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Gaps:
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strain="C57BL/6J"
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/clone="7330430107"
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                                                                                                Location/Qualifiers
1. .611
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91.80%
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                                                                                        e mouse tissues.
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Best Local Similarity:
Query Match:
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Pred. No.:
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Eukaryota, Metasca; Chordata; Craniata; Vertebrata; Euteleostomi; Mamania; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Musinalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Musinalia; Datheria; Rodentia; Sciurognathi; Muridae; Musinae; Mistado, I., Osato, N.; Satto, R. Suzuli, H.; Yaananaka, I.; Kiyosawa, H.; Yagit, K.; Tomatu, Y.; Hasegawa, Y.; Nogami, A.; Schonbach, C.; Golobori, T.; Baldarelli, R.; Hill, D. P.; Bult, C.; Golobori, T.; Schriml, I.M.; Kanapin, A.; Matsuda, H.; Betcher, C.F.; Forrest, M.; Blake, J. A.; Dalla, E.; Dragani, T. A.; Pletcher, C.F.; Forrest, M.; Plazer, K.S.; Gaasterland, T.; Gariboldi, M.; Gissil, C.; Godzik, A.; Gough, U.; Grimmond, R.; Gariboldi, M.; Gissil, C.; Godzik, S.; Dalla, E.; Dragani, T. A.; Kawasil, H.; Kawasawa, Y.; Kedzlerski, R.M.; King, B. L.; Konagaya, A.; Kurochkin, I. V.; Lee, Y.; Lenhard, B.; Lyons, P. A.; Maglott, D. F.; Multai, L.; Marchin, I. V.; Lee, Y.; Lenhard, B.; Lyons, P. A.; Maglott, D. R.; Malatais, L.; Marchin, I. V.; Lee, Y.; Lenhard, B.; Lyons, P. A.; Maglott, D. R.; Rawasi, T.; Red, J. C.; Reed, D. J.; Reid, J.; Rawasi, T.; Red, J. C.; Reed, D. J.; Reid, J.; Rawasi, R.; Nagh, R.; Shinada, K.; Sandelin, A.; Schneider, C.; Remple, C.A.; Semple, C.A.; Semple, R. D.; Tasadale, R. D.; Tantea, M.; Sarok, M.; Manlestedt, C.; Mang, Y.; Matanbe, Y.; Rayaner, L.; Wangler, M.; Manlestedt, C.; Mang, Y.; Matanbe, Y.; Rayaner, L.; Wangler, M.; Marchaw, T.; Pukuda, S.; Hayacawi, T.; Rono, H.; Nakamura, M.; Sarok, Shinaaka, T.; Rono, H.; Nakamura, M.; Sarok, Shinaaka, T.; Rono, H.; Nakamura, M.; Rogers, J.; Birna, B.; Shinagawa, A.; Yasunishi, A.; Sakai, K.; Sasaki, D.; Shinaaya, A.; Yasunishi, A.; Yashizaki, Y.; Materston, R.; Lander, E.; Shinaaya, A.; Yashizaki, Y.; Materston, R.; Lander, S.; Shinaaya, A.; Yashizaki, Y.; Kashizaki, Y.; Materston, R.; Lander, E.; Sasaki, D.; Sasaki, D.; Sasaki, D.; Sasaki, D.; Sasaki, D.; Sasaki, D.; Sasaki, Sasaki, D.; Sasaki, Sasaki, D.; Sasaki, D.; Sasaki, Sasaki, Sasaki, Sasaki, Sasaki, Sasaki, Sasaki, Sasak
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Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences Mamm. Genome. 12, 673-677 (2011)

Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000)

RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1771 (2000)

Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Respitation Research Group in Riken Genome Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to prepare mouse tissues.

Tissues were provided by Dr. Tomohiro Kono (Department of Animal Science, Tokyo University of Agriculture, 1737 Hunako Atsugi City,
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1242 Subbratory for Genome Exploration Research Group, RIKEN Genomic Conteact: Grotter (GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-72 Susehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan Tel: 81-45-500-9222
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Fax: 81-45-500-9222
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Fax: 81-45-500-922
Fax: 8
Mus musculus (house mouse)
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rel: 81-45-503-9222
Fax: 81-45-503-9216
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Pred. No.:
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                                                                                                       TITLE
JOURNAL
COMMENT
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                                                                                                                                                                                                                                                                                                                                                                                                                                  prepared by using trehalose thermo-activated reverse transcriptase and subsequently enriched for full-length by cap-trapper. cDNA went through one round of subtraction to Rot = 229.0 Second strand cDNA was prepared with the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EST 26-OCT-2001
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 634)
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                                                                                                                                                                                                                                                                                Inote="Site 1: Sall; Site_2: BamHI; cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in
                                                                                                                                                                                                                                                                                                                                                          RIKEN. Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                               /clone_lib="RIKEN full-length enriched, 9.5 days embryo
parthenogenote"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BB631131 RIKEN full-length enriched, 16 days neonate thymus Musmusculus CDNA clone Al30056K10 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 ArgleuAlaGlySerTrpAspLeuAlaGlyTyrLeuLeuTyr***Pro***MetGlyArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeu***ValArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  177 TTTGGGAACCAGGCTGATCACTTCTTGGGCTCCCTGGCATTTGCGAAGCTGCTGAACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     41 ThrLeuAlaValProProTrpIleGluTyrGlnHisHisLysProProPheThrAsnLeu
                                       for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Arakawa, T., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T.,
                                 Please visit our web site (http://genome.gsc.riken.go.jp) further details.
Kanagawa Prefecture, Japan) whose assistance we gratefully
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                614
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Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                  /tissue_type="parthenogenote"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps:
                                                                                                               'organism="Mus musculus"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-774-954-3 (1-61) x BY752500 (1-614)
                                                                        Location/Qualifiers
                                                                                                                                                                      clone="B130006A17"
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                                                                              FEATURES
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RIKENS integrated sequence analysis (RISA) system--384-format requencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1771 (2000)
Konno, H., Fukunishi, Y., Shibata, K., Itoh, M., Carninci, P., Sugahara, Y. and Haysshizaki, Y.
Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) Kondo, S., Shinagawa, A., Saito, T., Kiyosawa, H., Yamanaka, I., Alzawa, K., Pukuda, S., Hara, A., Itoh, M., Kawai, J., Shibata, K. and Hayashizaki, Y.
Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences. Mamm. Genome. 12, 673-677 (2001)
Please visit our web site (http://genome.gsc.riken.go.jp) for further details.
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                                                                                                                                                                                                                                                                                                      Contact: Yoshihide Hayashizaki
Laboratory for Genome Exploration Research Group, RIKEN Genomic
Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: genome-reseges riken.jp, URL:http://genome.ges.riken.jp/
Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K.,
Itoh,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y.
Normalization and subtraction of cap-trapper-selected cDNAs to
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wagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E.,
Matauliki,M., Yoneda,Y., Ishikawa,I., Muramatsu,M., Inoue,Y., Kira,A.
and Hayashizaki,Y.
Hara,A., Hiramoto,K., Hori,F., Ishii,Y., Ito,M., Kawai,J.,
Konno,H., Kouda,M., Koya,S., Matsuyama,T., Miyazaki,A., Nomura,K.,
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Sano,H., Sasaki,D., Shibata,K., Shinagawa,A., Shiraki,T.,
Sogabe,Y., Suzuki,H., Tagami,M., Tagawa,A., Takahashi,F.,
Takeda,Y., Tanaka,T., Toya,T., Muramatsu,M. and Hayashizaki,Y.
Unpublished (2001)
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BY752497 BY752497 RIKEN full-length enriched, 9.5 days embryo parthenogenote Mus musculus cDNA clone B130001118 5', mRNA sequence.
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Hayashizaki,Y. Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome. 12, 673-677 (2001) Please visit our web site (http://genome.gsc.riken.go.jp) for further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /dev stage="15 days embryo"
/lab_host="DH10B"
/clone_lib="RIKEN full-length enriched, 15 days embryo
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Matches:
Conservative:
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Indels:
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Location/Qualifiers
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Rarakaa, T., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Konno, H., Kouda, M., Koya, S., Matsuyama, T., Miyazaki, A., Momura, K., Sonno, H., Sasaki, D., Shibata, K., Shinagawa, A., Shiraki, T., Sakai, K., Sakai, K., Sano, H., Sasaki, D., Shibata, M., Tagawa, A., Takahashi, F., Sogabo, Y., Tanaka, T., Toya, T., Muramarsu, M. and Hayashizaki, Y. RIKBN Mouse ESTE (Arakawa, T., et al. 2001)

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Sciences Center(GSC), Yokohama Institute
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musculus CDNA clone 4021401D01 5', mRNA sequence.
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Mismatches:
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BB611933.1 GI:16453020
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cal Similarity:
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BB611933
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location/Qualifiers

FEATURES

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Mammalia, Butheria; Rodentia; Sciurognath; Mulliad; Mulliad; Mulliad; Sciuro, M., Kasukawa, T., Adachi, J., Bono, H., Kondo, S., Nikaido, T., Osato, M., Saito, R., Suzuki, H., Yamanaka, I., Kiyosawa, H., Yaqi, M., Tomaru, Y., Hasegawa, Y., Nogami, A., Schonbach, C., Gojobori, T., Baldarelli, R., Hill, D. P., Bult, C., Hume, D.A., Quackenbush, J., Schriml, L.M., Kanapin, A., Matsuda, H., Batalov, S. Beisel, K.W., Blake, J.A., Bradt, D., Brusic, V., Chothia, C., Corbani, L.E., Cousins, S., Dalla, E., Dragani, T.A., Fletcher, C.F., Forreset, M., Frazer, K.S., Gaasterland, T., Gariboldi, M., Gissi, C., Godzik, A., Gausterland, T., Kawaji, H., Kawasawa, Y., Kedzierski, R.M., King, B.L., Konagaya, A., Kanaji, H., Kawasawa, Y., Lehard, B.L., Konagaya, A., Matchhomi, D., Wachsie, L., Miki, H., Nagashima, T., Numata, K., Okido, T., Pertes, L., Miki, H., Nagashima, T., Numata, K., Okido, T., Pertes, J. Uyons, P.A., Maglott, D.R., Sandelin, A., Schneider, C., Semple, C.A., Setou, M., Shing, B.Z., Ringwald, M., Sandelin, A., Schneider, C., Semple, C.A., Setou, M., Shinga, I., Kangi, H., Wanger, L., Wahlestedt, C., Wang, Y., Waranbe, Y., Verardo, R., Wang, Y., Waranbe, Y., Wang, Y., Watanbe, Y., Wang, Y., Watanbe, Y., Wang, Y., Watanbe, Y., Wang, Y., Watanbe, Y., Wang, Y., Wang, Y., Wang, Y., Wang, Y., Watawa, Y., Yang, L., Wanki, K., Kawai, J., Shibata, K., Itoh, M., Sato, K., Shiraki, T., Waki, K., Sasaki, D., Shibata, K., Shinagwa, A., Yasunishi, A., Yoshino, M., Waterston, R., Lander, E.S., Rogers, J., Birney, B. and Hayashizaki, Y., Sasaki, D., Shibata, M., Nalusey, Based on functional annotation of 60,770 full-length cDNas
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences Mamm. Genome. 12, 673-677 (2001) Mormalization and subbraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000)
RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1771 (2000)
Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence Olustering for construction of a nonredundant cDNA library Genome Res. 11 (2), 281-289 (2001) cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genome Sciences Center and Genome Science Laboratory in Riken Genome Contributed to Division of Experimental Animal Research in Riken contributed to
Contact: Yoshihide Hayashizaki
Laboratoryy for Genome Exploration Research Group, RIKEN Genomic
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The Institute of Physical and Chemical Research (RIKEN)
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Tissues were provided by Dr. Tomohiro Kono (Department of Animal
Science, Tokyo University of Agriculture, 1737 Hunako Atsugi City,
                                                                                                                                                                                                                                                                                                                                              Email: genome_res@gsc.riken.jp, URL:http://genome.gsc.riken.jp/
Adachi,J., Aizawa,K., Akimura,T., Arakawa,T., Carninci,P.,
Bukuda,S., Hashizume,W., Hayashida,K., Hirozane,T., Hori,P.,
Imotani,K., Ishii,Y., Itoh,M., Kagawa,I., Kawai,J., Kojima,Y.,
Kondo,S., Konno,H., Koya,S., Miyazaki,A., Murata,M., Nakamura,M.,
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Sano,H., Sasaki,D., Sato,K., Shibata,K., Shiraki,T., Tagami,M.,
Direct Submission
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Please visit our web site (http://genome.gsc.riken.go.jp) for further details. Kanagawa Prefecture, Japan) whose assistance we gratefully

acknowledge.

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BB642654 BIKEN full-length enriched, adult retina Mus musculus CDNA
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Arakawa,T., Carninci,P., Fukuda,S., Furuno,M., Hanagaki,T.,
Hara,A., Hiramoto,K., Hori,F., Ishii,Y., Ito,M., Kawai,J.,
Konno,H., Kouda,M. Koya,S., Matsuyama,T., Miyazaki,A., Nomura,K.,
Ohno,M., Okazaki,Y., Okido,T., Saito,R., Sakai,C., Sakai,K.,
Sano,H., Sasaki,D., Shibata,K., Shinagawa,A., Shiraki,T.,
                                                                                                                                                                                                                                                                                                   21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLySLeu***ValArg 40
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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/dev stage="9.5 days embryo"
/lab_host="DH10B"
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                    /moi_type="mRNA"
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/clone="B130001118"
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Mismatches: Indels:

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Fax: 81-45-503-9202
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     Sogabe,Y., Suzuki,H., Tagami,M., Tagawa,A., Takahashi,F., Arkeda,Y., Tanaka,T., Toya,T., Muramateu,M. and Hayashizaki,Y. RIKEN Worse ESTE (Arakawa,T., et al. 2001)
Unpublished (2001)
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Length: Matches: Conservative:

2.33e-31 305.00 91.80%

Alignment Scores: Pred. No.: Score: Percent Similarity:

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Direct Summission.

Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences Mamm. Genome. 12, 673-677 (2001)

Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000)

RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 157-171 (2000)

Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) cDNA library was prepared and sequenced in Mouse Genome Encyclopedia project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in Riken Genomic Sciences Center and Genome Science in Riken contributed to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: genome-reseggs.riken.jp, URL.http://genome.gsc.riken.jp/
Adachi,J., Aizawa,K., Akimura,T., Arakawa,T., Carninci,P.,
Fukuda,S., Hashizume,W., Hayashida,K., Hirozane,T., Hori,F.,
Imotani,K., Ishii,Y., Itch,M., Kagawa,I., Kawai,J., Kojima,Y.,
Rondo,S., Ronno,H., Roya,S., Miyazaki,A., Murata,M., Nakamura,M.,
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Sano,H., Sasaki,D., Sato,K., Shibata,K., Shiraki,T., Tagami,M.,
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="Site 1: Sal1; Site 2: BamHI; cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'clone lib="RIKEN full-length enriched, 16 days embryo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    prepare mouse tissues.
Please visit our web site (http://genome.gsc.riken.go.jp) for further details.
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Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps: 2.34e-31 305.00 91.80% 91.80% Similarity: Percent Similarity: Best Local Similarit Alignment Scores: Query Match: Pred. No.:

664 56 5 0 0 0

US-09-774-954-3 (1-61) x BY728337 (1-664)

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| Oy 21 PheGlyAsnGlanlaAspH18PheLeuGlySexLeuAlaPheAlauySexLeuTroganteg 40 | Oy 41 ThrLeuAlaValProProTrplleGluTyrGlnHisHisHisLysProProPheThrAsnLeu 60 | Db 211 ACCTTGGCTGTACCTCCATGGATTGAATACCAACATCACAAGCCTCCTTTCACCAACCTC 270 | Qy 61 His 61   | · . | 21 PheGlyAsnGlnAlaAspHisPheLeuGlySerleuAlaPheAlaLySerleuTrg 40 |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------|-----|----------------------------------------------------------------|
|                                                                         |                                                                          |                                                                         |                | qq  | 271 CAT 273                                                    |
|                                                                         |                                                                          |                                                                         | Db 271 CAT 273 |     |                                                                |

Search completed: October 26, 2005, 15:17:23 Job time : 1076.43 secs



agreement ANA

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GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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| c search, using frame_plus_p2n model |
| using fr                             |
| search,                              |
| - nucleic                            |
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| protein -                            |
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October 26, 2005, 09:31:14 ; Search time 260.659 Seconds (without alignments) 1931.299 Million cell updates/sec 1 RLAGSWDLAGYLLYXPXMGR......LAVPPWIEYQHHKPPFTNLH 61 US-09-774-954-3 326 Title: Perfect score: Sequence: Run on:

0.5 7.0 7.0 Xgapop 10.0 , Xgapext Ygapop 10.0 , Ygapext Fgapop 6.0 , Fgapext Delop 6.0 , Delext **BLOSUM62** Scoring table:

9772377 segs, 4126317084 residues Searched: 19544754 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Command line parameters:

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Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

|    | Description | 74-954-16 Sequence 16, | 74-954-4 Sequence 4, | 26-157-9986 Sequence 998 | 157-4751 Sequence 475 | /4-954-1 sequence 1, 2 | -168 Sequence 1 | -4/52 Sequence 4/5 | -5 Sequence 5, | -7 Sequence 7, | -18161 Sequence 181 | -18160 Sequence 181 | -18082 Sequence 180 | 00  | - 5001 Semience 5001 | 1-1 Seguence 1, | -16666 Sequence 1666 | A-25606 Sequence | -28075 Sequence | 599-123276 | 963-23967 Sequence | 963-11436 Sequence | 285729 Sequence | 928-1697 Sequence | 320-1007 Sequence 100 | 242-9245 Sequence | 242-3500 Sequence<br>3-787-308 Semience | -282-122A-37727 Sequence 3772 | 75-978-1 Sequence | 61-527-113 Sequence 113 | 3-844-113 Sequence 11 | 472-928-4979 Sequence 4 | 25-065A-476650 Sequence 47 | 152-319A-21 Sequence 21, | 37-963-80416 Sequence 804 | 24-599-4041 Sequence 404 | 24-599-40437 Sequence 4 | 4-853A-4 Sequence 4, | 5-065A-500787 Sequence 5 | 25-065A-500788 Sequence 5 | 31-467-1068 Sequence 1 | 25-065A-770388 Sequence 770 | -079-32895 Sequence 3 |         |
|----|-------------|------------------------|----------------------|--------------------------|-----------------------|------------------------|-----------------|--------------------|----------------|----------------|---------------------|---------------------|---------------------|-----|----------------------|-----------------|----------------------|------------------|-----------------|------------|--------------------|--------------------|-----------------|-------------------|-----------------------|-------------------|-----------------------------------------|-------------------------------|-------------------|-------------------------|-----------------------|-------------------------|----------------------------|--------------------------|---------------------------|--------------------------|-------------------------|----------------------|--------------------------|---------------------------|------------------------|-----------------------------|-----------------------|---------|
|    | E E         |                        | 1 US-09              | US-10                    | 2 US-10               | 1 US-09                | -Sn 9           | S US-              | -Sn 1          | 1 US-(         | e us-:              | -Sn 9               | -Sn 9               | 200 |                      | 113             | 118-                 | 8 US-1(          | 1 US-1(         | 9 US-1(    | 0 US-1(            | 0 US-1(            | 3 US-09         | 2 US-1(           | 4 US-1                | SO-SO             | - 20-20                                 | B 11S-10                      | -60-Sn            | 30-SD                   | 8 US-1                | 22 US-1                 | 3 US-09                    | US-10                    | 0 US-10                   | 9 US-10                  | 9 US-10                 | 60-SN 0              | 3 US-09                  | -09                       | US-10                  | 3 US-09                     | US-10                 | 0 1 011 |
|    | Length      | 1 2                    | 30                   | 1400                     | 1506                  | 1514                   | 5218            | S                  | 11284          | 5009           | 1209                | 3264                | 3793                | 125 | 1000                 | 902560R         | 568                  | 594              | 764             | 829        | 4953               | 1617               | 636             | 2223              | 2292                  | 2304              | 2304                                    | 2304                          | 2352              | œ                       | 18627                 | 216                     |                            |                          |                           |                          | 14                      | 513                  |                          |                           |                        |                             |                       |         |
| de | ű ű         | 90.                    | 90.                  | 90.                      | 90                    | 90                     | 90              | 90.                | 90.            | 62.            | 54.                 | 44.                 | 44                  | 8.8 |                      |                 | : 5                  | 21.              | 21.             |            | 20.                | 20.                | 20.             | ~                 | 20.                   | 20.               | 200                                     |                               | 20.               | 20.                     | 20.                   | 20.                     | 20.                        | 19.                      | 19.                       | 19.                      | 19.                     | 19.                  | 19.                      | 7                         | 19.                    | 19.                         | 19.                   | 0       |
|    | ŭ           | 1 0                    | 6                    | 295                      | σ,                    | go.                    | φ,              | σ                  | σ              | 0              | ~                   | 4                   | 145                 | 16  | ٦,                   |                 | :<br>-               | 69.5             | . 6             | 68.5       | 9                  | 7.                 | 66.5            | ė,                | ė.                    | œ٠                | 66.5                                    | ė                             | 66.5              | 6                       | 6                     | 9                       | 99                         | 65                       | 65                        | 65                       | 65                      | 65                   | 4.                       | 64.5                      | 4.                     | 4.                          | 64                    | 77      |
|    |             |                        | 8                    | Э                        | 4                     | 'n                     | 9               | 7                  | 80             | σ              | 10                  |                     | c 12                |     | T -                  | CT -            | 12                   | 18               | 19              |            | c 21               | 22                 | c 23            | 24                | 25                    | 26                | 27                                      | 0 0                           | 30                | 31                      | 32                    | 33                      | 34                         |                          | c 36                      | 37                       | 38                      | 39                   | 40                       | 41                        |                        | c 43                        |                       | 4       |

## ALIGNMENTS

Sequence 16, Application US/09774954
; Publication No. US20040241645A1
; GENERAL INFORMATION:
; TITLE OF INVENTION: O-Fucosyltransferase;
; NUMBER OF SEQUENCES: 17
; CORRESPONDENCE ADDRESS:
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA RESULT 1 US-09-774-954-16

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COMPUTER READABLE FORM:

MEDIUM TYBE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winterin (Genentech)
CURRENT APPLICATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFFACATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: US/08/978,741
FILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
NAME: SVODOGA, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: 190,104
TELERRICE/DOCKET NUMBER: 190,104
TELERRICE/DOCKET NUMBER: 190,1191
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TYPE: Nucleic Acid
STRANDENESS: Single
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COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
SOFFWARE: Winfarin (Genentech)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 2
US-09-774-954-4

US-09-774-954-4

Sequence 4, Application US/09774954

Publication No. US20040241645A1

GENERAL INFORMATION:

GENERAL INFORMATION:

TITLE OF INVENTION:

CORRESPONDENCE ADDRESS:

CORRESPONDENCE ADDRESS:

ADDRESSEE Genettech, Inc.

STREET: 1 DNA WAY

CITY: South San Francisco

STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
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295.00
91.53%
90.49%
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Percent Similarity:
Best Local Similarity:
Query Match:
DB:
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Pred. No.:
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US-10-956-157-9986

Squence 9986, Application US/10956157

Squence 9986, Application US/10956157

Publication No. US20050118625A1

GENERAL INFORMATION:
APPLICANT: Wyeth

APPLICANT: Worth William

TITLE OF INVENTION: NUCLEIC ACID ARRAYS FOR DETECTING GENE EXPRESSION ASSOCIATED WITH

TITLE OF INVENTION: HUMAN OSTEOARTHRITIS AND HUMAN PROTEASES

FILE REPERBNCE: 031996-043000 (AM 101081)

CURRENT APPLICATION NUMBER: US/10/956,157

CURRENT FILING DATE: 2004-10-04

NUMBER OF SEQ ID NOS: 319805

SOFTWARE: PATENTIN VERSION 3.2

SOFTWARE: PATENTIN VERSION 3.2

SEQ ID NO 9986

LEGGTH: 1400
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Matches:
Conservative:
Mismatches:
Indels:
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                        CLASSIFICATION DATA:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: 08/792,498
FILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
NAME: SVODGA, CTASQ G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: 19041P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEPHONE: 650/225-1489
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CURRENT APPLICATION DATA:
PAPPLICATION NUBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFICATION: <UNKNOWN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; TOPOLOGY: Linear SEQUENCE DESCRIPTION: SEQ ID NO: 4: US-09-774-954-4
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CORGANISM: Homo sapiens
US-10-956-157-9986
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Best Local Similarity:
Query Match:
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Best Local Similarity:
Query Match:
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Pred. No.:
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Pred. No.:
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APPLICANT: Farger, Alliaon
APPLICANT: Berger, Alliaon
APPLICANT: Berger, Alliaon
APPLICANT: Guillemette, Tracy L.
APPLICANT: Schlegel, Robert
APPLICANT: Schlegel, Robert
APPLICANT: Monahan, John E.
APPLICANT: Monahan, John E.
APPLICANT: Monahan, John E.
APPLICANT: Monahan, John E.
APPLICANT: Morahan, John E.
APPLICANT: Monahan, John E.
APPLICANT: MADIORANTION: NOVEL GENES, COMPOSITIONS, KITS, AND
TITLE OF INVENTION: METHODS FOR IDENTIFICATION, ASSESSMENT, PREVENTION, TITLE OF INVENTION: THERAPY OF COLON CANCER
TITLE OF INVENTION: THERAPY OF COLON CANCER
FILE REFERENCE: MPMOL-029PZRNM
CURRENT FILING DATE: 2002-11-21.
PRIOR APPLICATION NUMBER: US 60/339,971
PRIOR FILING DATE: 2001-12-10
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    COMPUTER TEACHABLE TORM:
COMPUTER: 15.5 inch, 1.44 Mb floppy disk
COMPUTER: 18M PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Windatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFICATION: «Unknown-
PRIOR APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: US/08/978,741
FILING DATE: 31-JAN-1997
APPLICATION NUMBER: 08/792,498
FILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: 39,044
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
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Matches:
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Publication No. US20030148410A1
GENERAL INFORMATION:
APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Berger, Allison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE DESCRIPTION: SEQ ID NO: 1:
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INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: Nucleic Acid
STRANDEDNESS: Single
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Best Local Similarity:
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DB:
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Sublication No. US20050118625A1

GENERAL INFORMATION:

APPLICANT: Wyelh

APPLICANT: Weeth

TITLE OF INVENTION: HUMAN OSTECARTRRITIS AND HUMAN PROTEASES

TITLE OF INVENTION: HUMAN OSTECARTRRITIS AND HUMAN PROTEASES

FILE REFERENCE: 031896-043:00 (AM 101081)

CURRENT APPLICATION NUMBER: US/10/956,157

CURRENT FILING DATE: 2004-10-04

NUMBER OF SEQ ID NOS: 319805

SOFTWARE: Patentin version 3.2

SEQ ID NO 4751

LENGTH: 1506
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Matches:
Conservative:
Mismatches:
Indels:
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Publication No. US20040241645A1
GENERAL INPORMATION:
APPLICANT: Yang Wang, Michael W. Spellman:
ITLE OF INVENTION: O-Fucosyltransferase:
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS: 7
STREET: 1 DNA WAY
CITY: South San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-774-954-3 (1-61) x US-10-956-157-4751 (1-1506)
                                                                                   US-09-774-954-3 (1-61) x US-10-956-157-9986 (1-1400)
Gaps:
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CORGANISM: Homo sapiens
US-10-956-157-4751
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Query Match:
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Pred. No.:
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US-09-774-954-1
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185 AACCAGGCCGATCACTTCTTGGGCTCTCTGGCATTTGCAAAGCTGCTAAACCGTACCTTG 244
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                                                                             RESULT 8

US-09-774-55

US-09-774-55

Sequence 5, Application US/09774954

Sequence 5, Application US/09774954

Publication No. US20040241645A1

GENERAL INFORMATION: 0-Fucosyltransferase

NUMBER OF SEQUENCES: 17

CORRESPONDENCE ADDRESS:

ADDRESSER: Generatech, Inc.
STREET: 1 DNA Way

CITY: South San Francisco
STATE: California

COUNTRY: USA

COUNTRY: USA

COUNTRY: USA

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COUNTRY: USA

APPLICATION NUMBER: US/09/74,954

FILING DATE: 30-30-30

COUNTRY: USA

ATTORNEY/ ADAILCATION NUMBER: 1997

ATTORNEY/ ADAILCATION NUMBER: 1997

ATTORNEY/ ADAILCATION NUMBER: 1997

ATTORNEY/ ADAILCATION NUMBER: 1997

ATTORNEY/ ADAILCATION NUMBER: 1997

ATTORNEY/ ADAICTERISTICS:

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COUNTRY: USA

ATTORNEY/ ADAICTERISTICS:

LEMENTH: USA

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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: Linear SEQUENCE DESCRIPTION: SEQ ID NO: 5: US-09-774-954-5
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295.00
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Best Local Similarity:
Query Match:
DB:
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Pred. No.:
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US-10-956-157-4752

US-10-956-157-4752

Sequence 4752, Application US/10956157

Sequence 4752, Application Worls 581

Sequence 4752, Application Worls 581

SEQUENCE INVENTION: UCLEIC ACID ARRAYS FOR DETECTING GENE EXPRESSION ASSOCIATED WITH 7 ITILE OF INVENTION: UCLEIC ACID ARRAYS FOR DETECTING GENE EXPRESSION ASSOCIATED WITH 7 ITILE OF INVENTION: UCLEIC ACID 88100 (AM 101081)

CURRENT PELICATION NUMBER: US/10/956,157

CURRENT FILING DATE: 2004-10-04

SOFTWARE: Patentin version 3.2

SEQ ID NO 4752

LENGTH: 5218
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-774-954-3 (1-61) x US-10-301-822-168 (1-5218)
        PRIOR APPLICATION NUMBER: US 60/361,978
PRIOR FILING DATE: 2002-05-65
PRIOR PELING DATE: 2002-05-80
NUMBER OF SEQ ID NOS: 228
SOFTWARE: PastSEQ for Windows Version 4.0
SEQ ID NO 168
LINGH 5218
TYPE: DNA
ONGANISM: HOMO Sapiens
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295.00
91.53%
91.53%
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295.00
91.53%
90.49%
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; LOCATION: (50)...(1216)
US-10-301-822-168
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Percent Similarity:
Best Local Similarity:
Query Match:
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Best Local Similarity:
Query Match:
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Pred. No.:
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Pred. No.:
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23 AsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLySLeu***ValArgThrLeu 42
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; Sequence 18161, Application US/20050208558A1
; General INPORMATION:
    APPLICANT: et al.
    TITLE OF INVENTION:
    TITLE OF INVENTION:
    TITLE OF INVENTION:
    TITLE OF INVENTION:
    DETECTION KIT, SUCH AS NUCLEIC ACID
    TITLE OF INVENTION: ARRAYS, FOR DETECTING EXPRESSION OF 10,000 OR MORE
    TITLE OF INVENTION: DROSOPHILA GENES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 AACCAGGCCGATCACTTCTTGGCCTCTCTGGCATTTGCAAAGCTGCTAAACCGTACCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                43 AlavalproprotrpileGluTyrGlnHisHisLysProProPheThrAsnLeuHis 61
                                                                                                                                                                                                                                                                                                                 ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: 08/792,498
FILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
NAME: SVODGA, CTAIG G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/252-1489
TELEPHONE: 650/252-1489
TELERAX: 650/952-981
INFORMATION FOR SEC ID NO: 7:
SEQUENCE CHRACATERISTICS:
               Sequence 7, Application US/09774954
Publication No. US20040241645A1
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellmar
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
STREET: 1 DNA Way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-774-954-3 (1-61) x US-09-774-954-7 (1-5009)
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/774,954
PILING DATE: 30-Jan-2001
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps:
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TOPOLOGY: Linear
SEQUENCE DESCRIPTION: SEQ ID NO: 7:
                                                                                                                                                                                                                                     CITY: South San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 5009 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5.28e-19
204.00
94.87%
94.87%
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Best Local Similarity:
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US-11-097-143-18161
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Pred. No.:
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US-09-774-954-7
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TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLBIC ACID
TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLBIC ACID
TITLE OF INVENTION: DECESOPHILA GENES.
TITLE OF INVENTION: DROSOPHILA GENES.
FILE REFERENCE: CLOOO728
CURRENT APPLICATION NUMBER: US/11/097,143
CURRENT APPLICATION NUMBER: US/11/097,143
FRIOR PILING DATE: 1999-10-05
PRIOR PLING DATE: 1999-10-19
PRIOR PILING DATE: 1999-10-19
PRIOR PILING DATE: 1999-10-19
PRIOR PILING DATE: 1999-10-28
PRIOR PILING DATE: 1999-10-28
PRIOR PILING DATE: 1999-11-12
PRIOR PILING DATE: 1999-11-12
PRIOR PILING DATE: 1999-11-12
PRIOR PILING DATE: 1999-12-28
PRIOR APPLICATION NUMBER: 60/164,769
PRIOR PILING DATE: 1999-12-28
PRIOR PILING DATE: 1999-12-28
PRIOR PAPLICATION NUMBER: 60/173,383
PRIOR PILING DATE: 1999-12-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    82 GATCCCAATGGCTACCTCCCTACTGCTATGGGACGCTTTGGCAACCAGGCCGAC 141
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Mismatches:
Indels:
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Matches:
CURRENT APPLICATION NUMBER: US/11/097,143

CURRENT FILING DATE: 2005-04-04

PRIOR PEDIATION NUMBER: 60/157,832

PRIOR FILING DATE: 1999-10-05

PRIOR FILING DATE: 1999-10-19

PRIOR APPLICATION NUMBER: 60/160,191

PRIOR APPLICATION NUMBER: 60/161,932

PRIOR APPLICATION NUMBER: 60/161,932

PRIOR FILING DATE: 1999-10-28

PRIOR FILING DATE: 1999-11-12

PRIOR FILING DATE: 1999-11-2

PRIOR FILING DATE: 1999-11-2

PRIOR PLING DATE: 1999-11-2

PRIOR APPLICATION NUMBER: 60/173,383

PRIOR FILING DATE: 2000-01-12

PRIOR PLING DATE: 2000-01-12

PRIOR FILING DATE: 2000-01-2

PRIOR APPLICATION NUMBER: 60/184,831

PRIOR FILING DATE: 2000-03-23

PRIOR APPLICATION NUMBER: 60/191,637

PRIOR APPLICATION NUMBER: 60/191,637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 43008
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 18161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Sequence 18160, Application US/11097143; Publication No. US20050208558A1; GENEAL INFORMATION: APPLICANT: Venter, J. Craig
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US-11-097-143-18160/C
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77.78%
23.31%
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; ORGANISM: Homo sapiens
US-09-925-065A-602444
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Best Local Similarity:
Query Match:
DB:
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APPLICANT:
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    Query Match:
DB:
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US-11-097-143-18082/C

US-11-097-143-18082/C

Sequence 18082, Application US/11097143

Publication No. US2005208558A1

SEQUENCE 18082 Application NS-11097143

APPLICANT: Venter, Caraig

APPLICANT: Venter, Caraig

TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLEIC ACID

TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLEIC ACID

TITLE OF INVENTION: DESCRIPTION OF 10,000 OR MORE

TITLE OF INVENTION: DESCRIPTION OF 10,000 OR MORE

FILE REPRENCE: CLO00728

CURRENT APPLICATION NUMBER: US/11/097,143

FURB APPLICATION NUMBER: 60/160,191

PRIOR FILING DATE: 1999-10-05

PRIOR FILING DATE: 1999-10-19

PRIOR FILING DATE: 1999-10-19

PRIOR FILING DATE: 1999-10-19

PRIOR FILING DATE: 1999-10-12

PRIOR PLICATION NUMBER: 60/164,769

PRIOR PLICATION NUMBER: 60/164,769

PRIOR PLICATION NUMBER: 60/164,769

PRIOR FILING DATE: 1999-11-12

PRIOR FILING DATE: 1999-11-12

PRIOR FILING DATE: 1999-11-12

PRIOR FILING DATE: 1999-11-12

PRIOR FILING DATE: 1999-11-12

PRIOR FILING DATE: 1999-11-12

PRIOR FILING DATE: 1999-11-12

PRIOR FILING DATE: 1999-11-12

PRIOR FILING DATE: 2000-01-24

PRIOR FILING DATE: 2000-01-24

PRIOR FILING DATE: 2000-02-24

PRIOR FILING DATE: 2000-03-23

NUMBER OF SEQ ID NOS: 41008

SEQ ID NO 18082

DATUMER: DATE

DATE DATE: DATE

PLOOF WALLOW DATE: DATE

PLOOF WALLOW DATE: 2000-03-23

NUMBER OF SEQ ID NOS: 41008

SEQ ID NO 18082

DATE DATE DATE

DATE DATE DATE

PRIOR FILING DATE: 2000-03-23

PRIOR FILING DATE: 2000-03-23

NUMBER OF SEQ ID NOS: 41008

SEQ ID NOS: 41008

SEQ ID NOS: 41008
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2032 AATGGCACCCTGATCCTGCCGCCGTGGGTGGAGTATCGT 1994
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Matches:
Conservative:
Mismatches:
Indels:
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Conservative:
Mismatches:
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FRIOR FILING DATE: 2000-01-12
FRICAR APPLICATION NUMBER: 60/184,831
FRICAR FILING DATE: 2000-02-24
FRICAR FILING DATE: 2000-03-23
FRICAR FILING DATE: 2000-03-23
FRICAR FILING DATE: 2000-03-23
FRICAR FILING DATE: 2000-03-23
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CRGANISM: DROSOPHILA
US-11-097-143-18082
                                                                                                                                                                                                                                                                                                                                                         ; TYPE: DNA
; ORGANISM: DROSOPHILA
US-11-097-143-18160
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Best Local Similarity:
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Pred. No.:
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117 GCGGGCTCCTGGGACCCGGCCGGTTACTGCTCTACTGCCCTGCATGGGTAAG 170
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APPLICANT: BANDMAN, OLGA
TITLE OF INVENTION: SIGNAL PEPTIDE-CONTAINING MOLECULES
FILE REFERENCE: 039386-1568
CURRENT PAPLICATION NUMBER: US/10/820,474A
CURRENT FILING DATE: 2004-04-07
PRIOR FILING DATE: 2001-03-20
PRIOR PILING DATE: 1999-06-25
PRIOR FILING DATE: 1999-06-25
PRIOR PELICATION NUMBER: 60/090,762
PRIOR FILING DATE: 1998-06-25
PRIOR PELICATION NUMBER: 60/094,983
PRIOR PLING DATE: 1998-07-31
PRIOR PILING DATE: 1998-07-31
PRIOR PILING DATE: 1998-07-31
PRIOR PILING DATE: 1998-07-31
PRIOR FILING DATE: 1998-07-31
PRIOR PLING DATE: 1998-07-31
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Matches:
Conservative:
Mismatches:
Indels:
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Matches:
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JOS-10-156-761-30401

PUBLICATION NO. US20030119018A1

GENERAL INFORMATION:

APPLICANT: OWURA, SATOSHI

APPLICANT: ISHIKAWA, JUN

APPLICANT: ISHIKAWA, JUN

APPLICANT: SHIRAWA, JUN

APPLICANT: SHIRAWA, HIROSHI

APPLICANT: SHIRAWA, HIROSHI

APPLICANT: SHIRAWA, HIROSHI

APPLICANT: SHIRAWA, HIROSHI

APPLICANT: SHIRAWA, HIROSHI

APPLICANT: SANAKI, YOSHIYUKI

APPLICANT: BATTORI, MASAHIRA

TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES

FILE REPERENCE: 249-262

CURRENT APPLICATION NUMBER: US/10/156,761

CURRENT FILING DATE: 2001-05-30

PRIOR PLING DATE: 2001-05-30

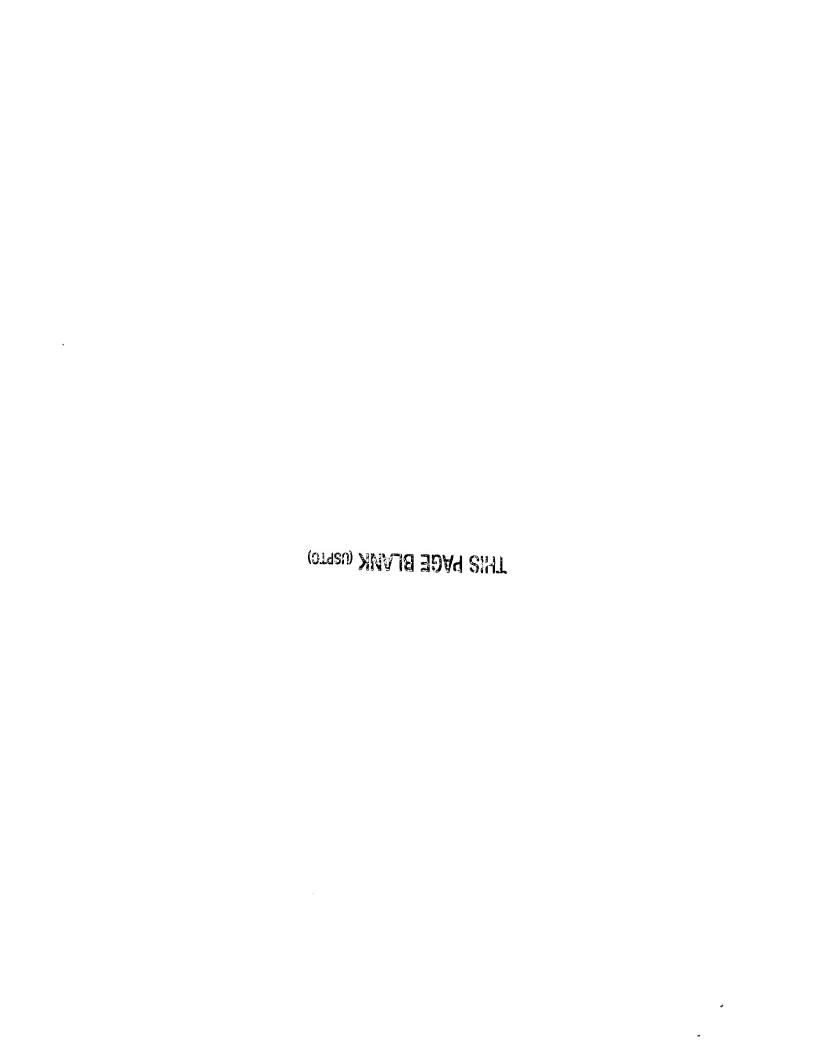
PRIOR FILING DATE: 2001-05-30

PRIOR FILING DATE: 2001-05-30

PRIOR FILING DATE: 2001-05-30

SEQ ID NOS: 15109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; NAME/KEY: misc_feature
; OTHER INFORMATION: Incyte Clone No: 1647884
US-10-820-474A-236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA ORGANISM: Streptomyces avermitilis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.433
76.00
83.33$
77.78$
23.31$
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ORGANISM: Homo sapiens
FEATURE:
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US-10-156-761-5001
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Best Local Similarity:
Query Match:
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US-10-156-761-5001
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NAME/KEY: CDS
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Pred. No.:
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Pred. No.:
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----AACACCCTCTACGTACCCCCCAAGGCCTTCTTCGAC 342
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                                                                                                                                                                                                                                                                                 343 GACCCGCAGTGGAAGGACATCACCGACTGGCAGGAGGAACTGAAGCCGTAC 393
                                                                                                                                                                                                                                                          47 ------Trp-----IleGluTyrGlnHisHisLysProProPhe 57
                                                                                                                                                                                                       32 LeualaPheAlaLysLeu***ValArgThrLeuAlaValProPro-
     8
17
5
                                                                                                                                                     25 AlaAspHisPheLeu-------
     Conservative:
                                                                    US-09-774-954-3 (1-61) x US-10-156-761-5001 (1-1803)
                Mismatches:
Indels:
Gaps:
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    40.26%
29.87%
22.24%
16
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Percent Similarity:
Best Local Similarity:
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Patent No. 6100076
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman TITLE OF INVENTION:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REPERENCE/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEFAX: 650/922-9881
INFORMATION FOR SEQ ID NO: 16: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
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ATTORNEY/AGENT INFORMATION:
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-MODEL=frame+ p2n.model -DFV=xlh
-Q=/Cogn2_1/USPTY-0 spo.1 h/USO9774954/runat_25102005_105433_6415/app_query.fasta_1.917
-Q=/Cogn2_1/USPTO-gapo.1 h/USO9774954/runat_25102005_105433_6415/app_query.fasta_1.917
-D=16812_1/USPTO-gapo.1 h/USO9774954/runat_25102005_105433_6415/app_query.fasta_1.917
-DB=168166_Patente NA -QFMT=fastap -SUPFIX=rni -MINMATCH=0.1 -LOOPEL=0
-LIST=45 -DOCALIGN=200 -THR SCORE=0.1 -NATRIX=100 -THR MIN-2
-MODE=LCCAL -OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0 -NAXLEN=200000000
-USER=US09774954_@CGN_1 1_116 @runat_25102005_105433_6415 -NCPU=6 -ICPU=3
-NO MAAP -LARAGQUERY -NEG SCORES=0 -MAIT -DSPBELOCK=100 -LONGLOG
-DST TIMEOUT=120 -WARN TIMEOUT=30 -THRENS=1 -XGAPPET=0 -XGAPEXT=0.5 -FGAPOP=6
-PGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
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Sequence 16, Appl
Sequence 1, Appli
Sequence 1, Appli
Sequence 2, Appli
Sequence 5, Appli
Sequence 7, Appli
Sequence 1, Appli
Sequence 14353, A
Sequence 14353, A
Sequence 12127, A
                                                                                                                                                                                                                           October 26, 2005, 08:18:39 ; Search time 53.4846 Seconds (without alignments) 1866.199 Million cell updates/sec
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11. \c9712_6/ptodatea1/1ina/5A_COMB.seq:*
12. \c9712_6/ptodatea1/1ina/5B_COMB.seq:*
31. \c9712_6/ptodatea1/1ina/6A_COMB.seq:*
41. \c9712_6/ptodatea1/1ina/6B_COMB.seq:*
42. \c9712_6/ptodatea1/1ina/PCTUS_COMB.seq:*
43. \c9712_6/ptodatea1/1ina/PCTUS_COMB.seq:*
44. \c9712_6/ptodatea1/1/ina/PCTUS_COMB.seq:*
45. \c9712_6/ptodatea1/1/ina/PCTUS_COMB.seq:*
46. \c9712_6/ptodatea1/1/ina/Packfiles1.seq:*
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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US-09-33-729A-16
US-09-33-729A-6
US-09-33-729A-6
US-08-978-741-1
US-09-33-729A-2
US-08-978-741-5
US-08-978-741-7
US-09-33-729A-8
US-09-349-016-12127
US-09-949-016-12127
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Maximum Match 100%
Listing first 45 summaries
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Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
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326
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                                                                                                                                                                                                                                                                                                                                                                                                     Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence:
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                                                                                                                                                                                                                                                Run on:
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No.
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| 0 1 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1                                                            | Sequence 203950,<br>Sequence 203951,<br>Sequence 17504, A<br>Sequence 16089, A<br>Sequence 14757, A               | Sequence 2, Sequence 10, equence 9, equence 1, equence 1, equence 1, equence 1, | 2,4,0,4,0,4,0,4,0,4,0,4,0,4,0,4,0,4,0,4,                                       | Sequence 5, Appli<br>Sequence 5, Appli<br>Sequence 5, Appli<br>Sequence 5, Appli<br>Sequence 5, Appli<br>Sequence 5, Appli<br>Sequence 3, Appli<br>Sequence 3, Appli<br>Sequence 17224, A |
|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| .08-311-731A-<br>.09-949-016-1<br>.09-583-110-2<br>.09-107-433-1<br>.08-922-837-1<br>.08-961-527-1 | US-09-949-016-203950<br>US-09-949-016-203951<br>US-09-949-016-17504<br>US-09-949-016-14089<br>US-09-949-016-14757 | 9-103-840A-2<br>9-103-840A-1<br>S91-00899-10<br>-395-800A-9<br>-434-151-1       | 433-271-1<br>-715-259-1<br>395-07554-<br>395-800A-<br>-675-773B-<br>-273-411-2 | US-08-75-773B-3<br>US-08-291-5<br>US-08-393-246-5<br>US-08-55-058A-5<br>US-08-656-731-5<br>US-09-042-531-5<br>PCT-US91-00899-3<br>US-09-949-016-17224                                     |
| 4444000                                                                                            | 4 4 4 4 4                                                                                                         |                                                                                 | 10051614                                                                       | 45321113                                                                                                                                                                                  |
| 42325<br>266293<br>2214<br>2292<br>2352<br>2352<br>2352                                            | 601<br>601<br>276237<br>175265                                                                                    | 4403765<br>4411529<br>999<br>1136<br>1155                                       | 1155<br>11155<br>11174<br>11199<br>2268<br>3373                                | 3791<br>8174<br>8174<br>8174<br>8174<br>8174<br>8174                                                                                                                                      |
| 0.00222020                                                                                         | $\sigma\sigma\sigma\sigma\sigma\sigma$                                                                            |                                                                                 |                                                                                | 918<br>918<br>918<br>918<br>918<br>918<br>918<br>918<br>918<br>918                                                                                                                        |
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| c 13<br>14<br>15<br>16<br>17<br>19                                                                 | 00000                                                                                                             | 7 0 0<br>2 2 2 2 2 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5                                | 3 6 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8                                        | <b>८ ८ ४ ४ ४ ४ ४ ४</b>                                                                                                                                                                    |

## ALIGNMENTS

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Conservative:
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Indels:
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; Sequence 16, Application US/09333729A
; Patent No. 6270897
; GENERAL INFORMATION:
APPLICANT: Wang, Yang, 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps:
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US-08-978-741-4
's Sequence 4, Application US/08978741
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295.00
91.53$
91.53$
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295.00
91.53%
91.53%
LENGTH: 1100 base pairs

TYPE: Nucleic Acid
STRANDEDNESS: Single

TOPOLOGY: Linear
US-08-978-741-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
CORGANISM: Homo Sapien
US-09-333-729A-16
                                                                                                                                                                                                                Percent Similarity: 5
Best Local Similarity: 9
Query Match: 9
DB:
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Best Local Similarity:
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| APPLICANTY YOUNG | Michael W. Spellman | Figure | Michael W. Spellman | Figure | Michael W. Spellman | Figure | Michael W. Spellman | Figure | Michael W. Spellman | Figure | Michael W. Spellman | Figure | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Spellman | Michael W. Sp
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Alignment Scores:
Pred. No.:
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COUNTY:

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winheatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-No. 610076-1997
CLASSIFICATION: 435
PRIOR APPLICATION TATA:
APPLICATION NUMBER: 08/792498
FILING APPLICATION DATA:
APPLICATION NUMBER: 08/792498
FILING APPLICATION NUMBER: 39,044
REPERBENCY/DOCKET NUMBER: 91041P1
TELECOMMUNICATION INFORMATION:
TELEFRAM: 650/252-1489
TELEFRAM: 650/952-1489
TELEFRAM: 650/952-1489
TELEFRAM: 650/952-1489
TELEFRAM: 111 NAGRAMICS:
SEQUENCE CHRACATERISTICS:
                                                                                                                                                                                                                                               Conservative:
Mismatches:
Indels:
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NUMBER OF SEQUENCES: 17
CORRESPONDENCE 17
CORRESPONDENCE Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                               US-09-774-954-3 (1-61) x US-09-333-729A-6 (1-1300)
                                                                                                                                                                                                             Length:
Matches:
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                                                                                                                                 ; OTHER INFORMATION: Plasmid insert. US-09-333-729A-6
 1997-11-26
                                                                         TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                         6.98e-36
295.00
91.53%
91.53%
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TYPE: Nucleic Acid
STRANDEDNESS: Single
PRIOR FILING DATE: 19
NUMBER OF SEQ ID NOS:
SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: Linear
                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
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                                                       LENGTH: 1300
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                                                                                                                 FEATURE:
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DB:
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67 AACCAGGCCGATCACTTCTTGGGCTCTCTGGCATTTGCAAAGCTGCTAAACCGTACCTTG 126
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                                                                                                                                                                                                 7 GCGGGCTCCTGGGACCCGGCTGGTTACCTGCTCTACTGCCCTGCATGGGGCGCTTTGGG
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Matches:
Conservative:
Mismatches:
Indels:
                                   Conservative:
Mismatches:
Indels:
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                                                                                                                                   US-09-774-954-3 (1-61) x US-08-978-741-1 (1-1514)
                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2, Application US/09333729A
Patent No. 6270897
GENERAL INFORMATION:
APPLICANT: Wang, Yang
APPLICANT: Spellman, Michael W.
TITLE REFERENCE: Pl041P101-Substitute
CURRENT APPLICATION NUMBER: 1896/933,729A
CURRENT FILING DATE: 1999-06-15
PRIOR PILING DATE: 1997-11-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
Length:
Matches:
                                                                                               Gaps:
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 8.58e-36
295.00
91.53%
91.53%
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295.00
91.53%
91.53%
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SEQ ID NO 2
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ORGANISM: Homo Sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
                                         Percent Similarity:
Best Local Similarity:
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US-09-333-729A-2
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US-09-774-954-3 (1-61) x US-09-333-729A-8 (1-5009)
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ADDRESSEE: Genericech, Inc.
STREET: 1 DNA WAY
STATE: california
COUWTRY: USA
ZIP: 94080
COMPUTER READBLE FORM:
MEDIUM TYPE: 3.5 inch. 1.44 Mb floppy disk
COMPUTER READBLE FORM:
MEDIUM TYPE: 3.5 inch. 1.44 Mb floppy disk
COMPUTER READBLE FORM:
MEDIUM TYPE: 3.5 inch. 1.44 Mb floppy disk
COMPUTER READBLE FORM:
MEDIUM TYPE: 3.5 inch. 1.44 Mb floppy disk
COMPUTER READBLE FORM:
MEDIUM TYPE: 3.5 inch. 1.44 Mb floppy disk
COMPUTER READBLE FORM:
MEDIUM TYPE: 0.00076-1997
FLING DATE: 26-No. 6100076-1997
FLING DATE: 26-No. 6100076-1997
FLING DATE: 33 9, 044
REFERENCE, AGENT INFORMATION:
NAME: SVODOGA: 0.1489
FILING DATE: 30, 044
REFERENCE, CALL OF STREAT ON NUMBER: 90,041P1
TELECOMMUNICATION INFORMATION:
TELEPRA: 650/952-9881
TELEPRA: 650/952-9881
TELERPA: 650/952-9881
TELERPA: 650/952-9881
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Matches:
Conservative:
Mismatches:
Indels:
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Sequence 7, Application US/08978741

Patent NO. 6100076

GENERAL INFORMATION:

TITLE OF INVENTION: O-Fucosyltransferase

NUMBER OF SEQUENCES: 17

CORRESPONDENCE ADDRESS:

ADDRESSES: Genemech, Inc.

STREET: 1 DNA May

CITY: South San Francisco

STRATE: California

COUNTRY: USA

ZIP: 94080

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-774-954-3 (1-61) x US-08-978-741-5 (1-11284)
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Best Local Similarity: 9
Query Match:
DB:
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US-08-978-741-5
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Pred. No.:
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Length:
Matches:
Conservative:
Mismatches:
Indels:
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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VG-00-333-729A-8

VG-00-333-729A

Sequence 8, Application US/0933729A

GENERAL INFORMATION:

APPLICANT: Wang Yang

APPLICANT: Spellman Michael W.

TITLE OF INVENTION: 0.5 Phocosyltransferase

TITLE OF INVENTION: 0.5 Phocosyltransferase

CURRENT APPLICATION NUMBER: US/09/333,729A

CURRENT FILIATION DATE: 1999-06-15

PRIOR APPLICATION NUMBER: US 08/798,741

PRIOR FILING DATE: 1997-11-26

SEQ ID NOS: 21

LEMARTH. FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-774-954-3 (1-61) x US-08-978-741-7 (1-5009)
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CUREBNT APPLICATION NATR:
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-No. 610076-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATR:
APPLICATION NUMBER: 08/792498
FILING DATE: 30.04
RECISTATION NUMBER: 39,044
RETERRANCH/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:
TELEFAX: 650/25-1489
TELEFAX: 650/25-1489
TELEFAX: 650/25-1489
TELEFAX: 650/95-981
TELEFAX: 650/95-981
TELENATION FOR SEQ ID NO: 7: SEQUENCE CHARACTERISTICS:
LENGTH: 5009 base pairs
TYPE: NUCLEC Acid
TYPE: NUCLEC Acid
TYPE: NUCLEC Acid
TYPE: NUCLEC Acid
TYPE: NUCLEC Acid
TYPE: NUCLEC Acid
TYPE: NUCLEC Acid
TYPE: NUCLEC Acid
TYPE: NUCLEC Acid
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204.00
94.87%
94.87%
62.58%
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204.00
94.87%
94.87%
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TYPE: DNA
CREANISM: Homo Sapien
US-09-333-729A-8
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Best Local Similarity:
Query Match:
DB:
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Best Local Similarity:
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DB:
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Alignment Scores:
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                                                                                                                Query Match:
DB:
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                      Pred. No.:
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Sequence 12127, Application US/09949016

Sequence 12127, Application US/09949016

Sequence 12127, Application US/09949016

Sequence 12127, Application US/09949016

SERNERAL INFORMATION:

APPLICANT: VENTION:

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

CURRENT PAPLICATION NUMBER: 60/241,755

PRIOR FILING DATE: 2000-10-20

PRIOR FILING DATE: 2000-10-20

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SEQ ID NO 12127

LENGTH: 19227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           135 CACTTCCTGGGATCATTGGCCTTCGCCAAGGCGCTTAATCGCACCCTGATCCTGCCGCCG 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27 HisPheLeuGlySerLeuAlaPheAlaLysLeu***ValArgThrLeuAlaValProPro 46
                                    2 AACCAGGCCGATCACTTCTTGGGCTCTCTGGCATTTGCAAAGCTGCTAAACCGTACCTTG 61
    AsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeu***ValArgThrLeu 42
                                                                                                                                                                                                                       Sequence 14353, Application US/09270767

Batent No. 6703491

GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Homburger et al.

TITLE OF INVERNICS: File Reference: 7326-094

CURRENT APPLICANT: 1999-03-17

CURRENT APPLICATION NUMBER: US/09/270,767

CURRENT PILING DATE: 1999-03-17

NUMBER OF SEQ ID NOS: 62517

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 14353

LENGTH: 1320
                                                                                                                        62 GCTGTCCTTCCTTGGATTGAGTACCAGCATCACAAGCCTCCTTTCACCAACCTCCAT 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7 AspleuAlaGlyTyrLeuLeuTyr***Pro***MetGlyArgPheGlyAsnGlnAlaAsp
                                                                                             43 AlaValProProTrpIleGluTyrGlnHisHisLysProProPheThrAsnLeuHis 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
Indels:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps:
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; ORGANISM: Drosophila melanogaster
US-09-270-767-14353
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177.00
80.00%
73.33%
54.29%
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Best Local Similarity:
Query Match:
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; ORGANISM: Human
US-09-949-016-12127
                                                                                                                                                                                          RESULT 10
US-09-270-767-14353
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Pred. No.:
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GENERAL INFORMATION:
APPLICANT: VENTER, J. Craig et al.
APPLICANT: VENTER, J. Craig et al.
APPLICANT: VENTER, J. Craig et al.
APPLICANT: VENTER, J. Craig et al.
APPLICANT: VENTER, J. Craig et al.
APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF FILE REPERENCE: CL001307
CURRENT APPLICATION NUMBER: 60/241,755
PRIOR APPLICATION NUMBER: 60/241,755
PRIOR APPLICATION NUMBER: 60/231,768
PRIOR APPLICATION NUMBER: 60/231,498
PRIOR APPLICATION NUMBER: 60/231,498
PRIOR APPLICATION NUMBER: 60/231,498
PRIOR PILING DATE: 2000-10-03
PRIOR PILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 131, Application US/08311731A
Patent No. 658326
GENERAL INFORMATION:
APPLICANT: SMITH, DOUGLAS
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES
TITLE OF INVENTION: RELATING TO MYCOBACTERIUM TUBERCULOSIS AND LAPRAE FOR TITLE OF INVENTION: BELATING TO MYCOBACTERIUM TUBERCULOSIS AND LAPRAE FOR NUMBER OF SEQUENCES: 411
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                     1712 GCGGGCTCCTGGGACCCGGCCGGTTACCTGCTCTACTGCCCTGCATGGGTAAG 1659
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Matches:
Conservative:
Mismatches:
Indels:
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Length:
Matches:
Conservative:
Mismatches:
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                                                                                              ndels:
                                                                                                                              Gaps:
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; Sequence 16285, Application US/09949016
; Patent No. 6812339
2.55
76.00
83.33
77.78
23.31$
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STATE: MASSACHUSETTS
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
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Best Local Similarity:
Query Match:
                                                  Percent Similarity:
Best Local Similarity:
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US-08-311-731A-131/c
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US-09-949-016-16285
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; LENGTH: 266293
; TYPE: DNA
; ORGANISM: Human
US-09-949-016-11934
                                                                                              Alignment Scores:
Pred. No.:
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US-09-949-016-11934
US-09-949-016-11934
US-09-949-016-11934
US-09-949-016-11934
US-09-949-016-11934
US-09-949-016-11934
US-09-949-016-11934
US-09-949-016-11934
US-09-949-016
UNRENT VENTEN. 4. Craig et al.
APPLICANT: VENTEN. 4. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
TITLE OF INVENTION: WIMBER: 80/949,016
CURRENT FILING DATE: 2000-04-14
PRIOR APPLICATION NUMBER: 60/241,755
PRIOR APPLICATION NUMBER: 60/231,768
PRIOR APPLICATION NUMBER: 60/231,768
PRIOR APPLICATION NUMBER: 60/231,498
PRIOR FILING DATE: 2000-09-08
WUMBER OF SEQ ID NOS: 207012
SEQ ID NO 11934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30298 TCCTGGGATCTGCGTAAATTC---CTCTGGGGCGCGGAAGCTGGGCTGCTACGGCATCCAA 30242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5 SerTrpAspLeuAlaGlyTyrLeuLeuTyr***Pro***MetGlyArgPheGlyAsnGln 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25 AlaAspHisPheLeu-----GlySer 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             32 LeuAlaPheAlaLysLeu***ValArgThrLeuAlaValProProTrpIleGluTyrGln 51
  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
RILING DATE:
FILING DATE:
CLASSIFICATION: 530
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Matches:
Conservative:
Mismatches:
Indels:
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                                                                                                                                 ATTORNEY AGENT INPOSATION:
NAME: GATES, EDWARD R.
REGISTRATION NUMBER: 31,616
REFERENCE/DOCKET NUMBER: C0044/7125
TELECOMUNICATION INFORMATION:
TELEPHONE: 617/720-3500
TELEFRA: 617/720-2441
INFORMATION FOR SEQ ID NO: 131:
SEQUENCE CHARACTERISTICS:
LENGTH: 42325 base pairs
TYPE: nucleic acid
STRANDENNESS: double
TYPE: nucleic acid
STRANDENNESS: double
TYPE: nucleic acid
STRANDENNESS: double
TYPE: LENGTH: VO
STRANDEN TYPE: NO
STRANDEN TYPE: NO
ANTI-SENSE: NO
ANTI-SENSE: NO
ANTI-SENSE: NO
CRIGINAL SOURCE:
ORGANISM: MYCOBACTERIUM LEPRARE
US-08-311-731A-131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30148 -----GAGCCGTTCTTTGCCAAC 30131
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68.50
42.65%
33.82%
21.01%
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VS-09-583-110-2414

VS-09-583-110-2414

Sequence 2414, Application US/09583110

Sequence 2414, Application US/09583110

Sequence 2414, Application US/09583110

Setent No. 6699703

APPLICANT: Lynn Doucette-Stamm et al.

TITLE OF INVENTION: Nucleic Acid and Amino Acid Sequences Relating to Streptococcus

TITLE OF INVENTION: PARHOLO-07A

TITLE OF INVENTION: PARHOLO-07A

CURRENT APPLICATION NUMBER: US/09/583,110

CURRENT FILING DATE: 2000-05-26

PRIOR FILING DATE: 1998-06-30

PRIOR FILING DATE: 1998-06-30

PRIOR FILING DATE: 1998-06-30

PRIOR FILING DATE: 1998-06-30

PRIOR FILING DATE: 1998-06-30

NUMBER OF SEQ ID NOS: 5322

SEQ ID NO 2414

LENGTH: 2214
                                                                                                                                                                    | | | | :: | | | :: | | | | 336386 CTCCACCTTCAATACCATCACCTCAG 236345
                                                                                                                                                                                                                                                                           418 iridarcedescretriraratreceaesecetreterrireaaratecesaectrae 477
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 LeuAlaGlyTyrLeuLeuTyr***Pro***MetGlyArgPheGlyAsnGlnAlaAspHis 27
                                                                                                                                                                                                                                                 21 PheglyAsnGlnAlaAspHisPheLeu-----GlySerLeuAlaPheAlaLys--- 36
                                                                                                                                                                                                                                                                                                                                37 Leu***ValArgThrLeuAlaValProProTrp------------
266293
19
11
22
14
                                                                                                                                     US-09-774-954-3 (1-61) x US-09-949-016-11934 (1-266293)
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Matches:
Conservative:
Mismatches:
Indels:
  Length:
Matches:
Conservative:
Mismatches:
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                                                                                                  Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                     236346 GAGTTAGAATTTCAACAT 236363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GRGANISM: Streptococcus pneumoniae US-09-583-110-2414
                                                                                                                                                                                                                                                                                                                                                                                                               48 --- IleGluTyrGlnHis 52
                     67.00
45.45%
28.79%
20.55%
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48.84%
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20.40%
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Best Local Similarity:
Query Match:
DB:
                            Percent Similarity:
Best Local Similarity:
Query Match:
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" Thu Oct 27 11:17:26 2005

48 IleGluTyr 50 ||| 529 TCTGTTTAC 537

Search completed: October 26, 2005, 15:25:31 Job time : 106.485 secs

è 8

(OTARU) ANALE BLANK (USPTO)

Ugaint SWA

Human pol First Eco Drosophil

OM protein

Run on:

Sequence:

Title: Perfect 8

Searched:

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Abili3947 Drosophil Abili394 Drosophil Abili394 Drosophil Abili394 Drosophil Abili394 Drosophil Abili394 Drosophil Abili394 Prokaryot Abb5323 Primary r Aaz96329 S. pneumo Adro5551 Streptoco Aas55608 Streptoco Aas55608 Streptoco Aas55608 Streptoco Aas55608 Streptoco Continuation (8 of Adro3039 Primary r Abt40319 Primary r Abt40319 Primary r Abb50839 Primary r Abb50839 Primary r Abb50839 Primary r Abb50839 Primary r Abb50839 Primary r Abb50839 Primary r Abb50839 Primary r Abb50839 Proxicity Adb508286 Human can Aai61373 Soybean 3 Continuation (2 of Adj75816 Marker ge Adi23671 Mouse LPD Aca49002 Prokaryot Ada69987 Rice gene Ak83286 Human imm Abl3098 Rat meta8 Adn07889 Human imm Abl3098 Rat meta8
                                                                                                                                                                                                                                                                                                                                                 Ado58598 Porcine a
Acn44612 Mouse gen
Continuation (4 of
Abd33038 Mouse can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                O-fucosyltransferase; epidermal growth factor; EGF; glycosylation;
O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart; ss.
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/note= "this actively expressed O-fucosyltransferase
sequence is claimed for in claim 9"
1.1098
/tag= a
/product= "human heart O-fucosyltransferase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human heart O-fucosyltransferase encoding DNA
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ADB50839
ABT40319
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AAI61373 1
ADJ75816
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ADA69987
AAK83286
ACH76865
AAK84657
ABL93098
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ABL11790
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ADQ97980
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                                                                        ADB53234
AAZ96329
                                           AAZ98210
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       AAV65634
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AAS55608
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Acr40746 Tumour-as
Adf81754 Leukaemia
Aav65633 Plasmid c
Aak51510 Human pol
                                                                October 26, 2005, 03:15:37; Search time 170.85 Seconds (without alignments) 2113.573 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Description
                                                                                                                            1 RLAGSWDLAGYLLYXPXMGR.....LAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                                                            8780412
          GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                             hits satisfying chosen parameters:
                                                                                                                                                                                                        4390206 segs, 2959870667 residues
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                         This DNA encodes a human heart O-fucosyltransferase that can glycosylate an epidemral growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-fucosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       67 AACCAGGCCGATCACTTCTTGGGCTCTCTGGCATTTGCAAAGCTGCTAAACCGTACCTTG 126
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tumour-associated antigenic target; TAT; human; overexpression; tumour; diagnosis; cell proliferative disorder; breast cancer; colorectal cancer; lung cancer; ovarian cancer; liver cancer; certical cancer; bladder cancer; pancreatic cancer; certical cancer; bladder cancer; pancreatic cancer; certical cancer; bladder cancer; pancreatic cancer; certical cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; cancer; canc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tumour-associated antigenic target (TAT) cDNA DNA326813, SEQ ID NO:5725
                                                                                                                                                                                                                      Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving overexpression of the enzyme.
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                     31-JAN-1997; 97US-00792498.
26-NOV-1997; 97US-00978741.
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                                                                                (GETH ) GENENTECH INC.
                                                                                                                        Wang Y, Spellman MW;
                                                                                                                                                                WPI; 1998-437477/37.
P-PSDB; AAW80571.
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Query Match:
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The invention relates to human tumour-associated antigenic target (TAT) polypeptides, and their related nucleic acids. The TAT polypeptides are overexpressed in cancer tissues compared to normal tissues, and may thus serve as effective targets for the diagnosis and treatment of cancer in nammals. The invention also relates to nucleic acid and polypeptide or sequences at least 80% identical to the TAT nucleic acids and antibody specific for a TAT polypeptide; a peptide or organic acid, an antibody specific for a TAT polypeptide; peptide or organic acid, an antibody specific for a TAT polypeptide; peptide or organic acid, an antibody specific for a TAT polypeptide; nucleic acids, antibodies, antagonists, binding molecules and compositions are useful.

TAT polypeptide, antagonists, binding molecules and compositions are useful.

TAT polypeptides acids, particularly cancers such as breast cancer, colorectal cancer, lung cancer, ovarian cancer, liver cancer, batched cancer, ovarian cancer, back cancer, backed as whybridistation probes, in chromosome and gene mapping, in the presents a TAT nucleic acids may further be used as thybridistation probes, in chromosome and gene mapping, in chromosome identification acid of the invention TAT purely accorded as the present sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 AlaGlySerTrpAspLeuAlaGlyTyrLeuLeuTyr***Pro***MetGlyArgPheGly
                                                                                                                                                                                                                                                                                                                   New tumor-associated antigenic target polypeptides and nucleic acids, useful in preparing a medicament for treating or detecting a proliferative disorder, e.g. breast, lung, colorectal, ovarian or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 5218 BP; 1255 A; 1274 C; 1334 G; 1355 T; 0 U; 0 Other;
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29-SEP-2003; 2003WO-US028547.
                                                          02-OCT-2002; 2002US-0414971P.
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                                                                                                                                                                          Zhang Z, Zhou Y;
                                                                                                                                                                                                                                                                                                                                                                                                               prostate cancer or tumor.
                                                                                                                                                                                                                                 WPI; 2004-347921/32.
P-PSDB; ABM82223.
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This represents the nucleotide sequence of the plasmid construct used for the expression of human heart O-fucosyltransferase. The human O-fucosyltransferase can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferases, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving
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"insert coding for human O-fucosyltransferase."
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       O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 11284 BP; 2947 A; 2602 C; 2624 G; 3111 T; 0 U; 0 Other;
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                                                                                                                                                                                   /note= "polyhistidine
                                                                                              ocation/Qualifiers
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P-PSDB; AAW80573.
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Best Local Similarity:
                                                   Homo sapiens.
Synthetic.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention relates to a method (M1) for determining the subtype of leukaemia cells and whether a patient sample contains leukaemia cells. The method comprises determining the expression profile of a group of markers in a patient sample. The method is useful for determining the presence of leukaemia cells, its types or subtypes, and for the preparation of a medicament for treating leukaemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22
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                                                                                                                                                                                                                                                                                                                                                                               Determining the subtype of leukemia cells and whether a patient sample contains leukemia cells or other cells, useful for treating leukemia, comprises determining the expression profile of a group of markers in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dugas M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 AlaGlySerTrpAspLeuAlaGlyTyrLeuLeuTyr***Pro***MetGlyArgPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AlaValProProTrpIleGluTyrGlnHisHisLysProProPheThrAsnLeuHis 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 5266 BP; 1280 A; 1278 C; 1331 G; 1346 T; 0 U; 31 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Plasmid construct for expression of human O-fucosyltransferase.
                                                                                                                                                                                                                                                                                                       Kohlmann A, Schnittger S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; SEQ ID NO 2310; 2938pp; English
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Gaps:
                            Cytostatic; Gene therapy; leukaemia; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-774-954-3 (1-61) x ADF81754 (1-5266)
 Leukaemia-related DNA sequence #2310.
                                                                                                                                                                                                                  DEUT KREBSFORSCHUNGSZENTRUM.
UNIV LUDWIG MAXIMILIANS.
HAFERLACH T.
                                                                                                                                                                                                                                                                                                         h T, Schoch C, Kern W, 1
Brors B, Mergenthaler S;
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295.00
91.53%
91.53%
                                                                                                                                              04-NOV-2002; 2002WO-EP012303
                                                                                                                                                                         2001EP-00126244
2002EP-00009758
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                                                                                                                                                                                                                                                                                                                                                   WPI; 2003-505037/47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity:
                                                                                                                                                                                                                                                                  SCHOCH C.
                                                                                      WO2003039443-A2
                                                                                                                                                                                                                                                                                                                                                                                                                               patient sample.
                                                                                                                                                                                                                                                                            KERN W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
                                                                                                                                                                                                                                                                                                          Haferlach T,
                                                                                                                                                                         05-NOV-2001;
30-APR-2002;
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                                                         Unidentified
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                                                                                                                 L5-MAY-2003
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(UYLU-)
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(KERN/)
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1D AAV6

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AAK52494
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic acids encoding polypeptides with cytokine-like activities, useful in diagnosis and gene therapy.
                                                                                                                                                                             Human, cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorder; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VY;
Wang ZW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 5230 BP; 1285 A; 1255 C; 1330 G; 1360 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tang YT, Liu C, Drmanac RT, Asundi V, Zhou P, Xu C, Cao Ma Y, Zhao QA, Wang D, Wang J, Zhang J, Ren F, Chen R, Xue AJ, Yang Y, Wejhrman T, Goodrich R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 1; Page 638-642; 6221pp; English.
                                                                                                                                                    Human polynucleotide SEQ ID NO 55.
                                                                                                                                                                                                                                                                                                                                                                                                        03-FEB-2000; 2000US-00496914.
27-ARR-2000; 2000US-00560875.
20-UTD-2000; 2000US-00590075.
19-UTD-2000; 2000US-00654936.
15-SEP-2000; 2000US-00654936.
20-OCT-2000; 2000US-0063325.
30-NOV-2000; 2000US-00728422.
                                                      AAK51510 standard; cDNA; 5230
                                                                                                                                                                                                                                                                                                                                                                             05-FEB-2001; 2001WO-US004098.
                                                                                                                       06-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2001-476283/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (HYSE-) HYSEQ INC.
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                                                                                                                                                                                                                                                                                                            WO200157190-A2.
                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                             09-AUG-2001.
                                                                                         AAK51510;
                       RESULT 5
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7 AspleuAlaGlyTyrLeuLeuTyr\*\*\*Pro\*\*\*Met---------GlyArgPhe 21

US-09-774-954-3 (1-61) x AAK51510 (1-5230)

5230 44 4 7 7 1

Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:

4.11e-23 232.50 80.00% 73.33%

Percent Similarity: Best Local Similarity:

Best Local Si Query Match: DB:

Alignment Scores: Pred. No.:

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The invention relates to polymucleotides (AAK51456-AAK53435) and the encoded polypeptides (AAM78323-AAM80302) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polymucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides are useful in gene therapy, vaccines or activity, tissue cell growth factor activity, haematopoiesis regulating activity tissue growth factor activity, immunomodulatory activity and activity, tissue growth factor activity, immunomodulatory activity and activity, inhibin activity and may be useful in the diagnosis and/or reatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: Records for SQO ID NO 2110 (AAK52581) 2111 (AAK52582) and 3666 (AAM80020) are omitted as the relevant pages from the sequence listing were missing at the time of publication
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nucleic acids encoding polypeptides with cytokine-like activities, useful in diagnosis and gene therapy.
Human, cytokine, cell proliferation, cell differentiation, gene therapy, vaccine, peptide therapy, stem cell growth factor, haematopoiesis, tissue growth factor, immunomodulatory, cancer, leukaemia; nervous system disorder, arthritis; inflammation, ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tang YT, Liu C, Drmanac RT, Abundi V, Zhou P, Xu C, Cao Y;
Ma Y, Zhao QA, Wang D, Wang J, Zhang J, Ren F, Chen R, Wang ZW;
Xue AJ, Yang Y, Wejhrman T, Goodrich R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 4850 BP; 1142 A; 1218 C; 1244 G; 1246 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1; Page 4424-4425; 6221pp; English.
                                                                                                                                                                                                                                                                                        Human polynucleotide SEQ ID NO 2023
                                                                                                                                                                              AAK52494 standard; cDNA; 4850 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-FEB-2000; 2000US-00496914.
27-APR-2000; 2000US-00560875.
20-UTN-2000; 2000US-00598075.
19-UTL-2000; 2000US-0063032.
01-SEP-2000; 2000US-0064936.
15-SEP-2000; 2000US-0063351.
20-OCT-2000; 2000US-00633325.
30-NOV-2000; 2000US-00728422.
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P-PSDB; AAM79361.
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Length:
Matches:
Conservative:
Mismatches:
Indels:

5.84e-19 204.00 94.87% 94.87% 62.58%

Percent Similarity: Best Local Similarity:

Query Match: DB:

Alignment Scores:

red. No.:

Score:

Gaps:

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This represents a first EcoR1 nucleotide fragment of human KIAA0180. This 5009 basepairs partial cDNA encodes for a protein of unknown function from myeblast cell line KG-1. The invention provides a human heart Offucosyltransferase that can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated Offucosy residue. Inhibitors of offucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of Offucosyltransferase. to promote survival of
                                                                                                                                                           160 GACATGGCCAGGTGGCCTACATGCTCCAAGGGGGGGAGGAGGAGGCCAGGGGCGCTTT 219
                                                                                                                                                                                                           280 TTGGCTGTCCCTTCTTGGGTTCGAGTACCAGCATCACAAGCCTCCTTTCACCAACCTCCAT 339
                                                                                                                                    21
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                                                                                                                                                                                          22 GlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeu***ValArgThr 41
                                                                                                                                                                                                                                                 Leualaval ProProTrpIleGluTyrGlnHisHisLysProProPheThrAsnLeuHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                               88.
                                                                                                                                                                                                                                                                                                                                                                                                                                                O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human O-fucosyl:transferase able to glycosylate epidermal growth f. domains - useful for diagnosis and treatment of diseases involving
        4850
42
5
8
8
                                                                                                                                                                                                                                                                                                                                                                                                                    First EcoR1 nucleotide fragment of human KIAA0180
                                                                                                                                    7 AspleualaGlyTyrLeuLeuTyr***Pro***Met----
        Length:
Matches:
Conservative:
Mismatches:
Indels:
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                                                                                                          US-09-774-954-3 (1-61) x AAK52494 (1-4850)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97US-00792498.
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        2.14e-21
220.50
78.33$
70.00$
                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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P-PSDB; AAW80577.
                                                  Best Local Similarity:
Query Match:
                                       Percent Similarity:
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26-NOV-1997;
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Alignment Scores:
Pred. No.:
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sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for 0-

Sequence 5009 BP; 1235 A; 1195 C; 1268 G; 1311 T; 0 U; 0 Other;

fucosyltransferase

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18
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL16175 and the encoded proteins (ABB7737-ABB72072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell interactions.
                                                                                                            62 GCTGTCCCTCCTTGGATTGAGTACCAGCATCACAAGCCTCCTTTCACCAACCTCCAT 118
                                 AsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeu***ValArgThrLeu
                                              2 AACCAGGCCGAICACTICTIGGGCTCTCTGGCAITTGCAAAGCTGCTAAACCGTACCTTG
                                                                                             61
                                                                                          43 AlaValProProTrpIleGluTyrGlnHisHisLysProProPheThrAsnLeuHis
                                                                                                                                                                                                                                                                                      Drosophila melanogaster expressed polynucleotide SEQ ID NO 36323
                                                                                                                                                                                                                                                                                                                  Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BP; 302 A; 313 C; 307 G; 287 T; 0 U; 0 Other;
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33
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Matches:
Conservative:
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US-09-774-954-3 (1-61) x AAV65634 (1-5009)
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11-JUL-2000; 2000US-00614150.
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177.00
80.00%
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                                                                                                                                                                                                                                                                                                                                          pharmaceutical; gene; ss
                                                                                                                                                                                                                                                                                                                                                                        Drosophila melanogaster.
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                                                                                                                                                                                                                                                                                                                                                                                                         WO200171042-A2.
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                                                                                            141
                                                           56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell interactions.
                                                        Drosophila melanogaster expressed polynucleotide SEQ ID NO 36320.
                                                                                                                                                                                                                                                                  Drosophila; developmental biology; cell signalling; insecticide; pharmaceutical; gene; ss.
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Matches:
Conservative:
Mismatches:
    000
    Mismatches:
Indels:
Gaps:
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                                          US-09-774-954-3 (1-61) x ABL13947 (1-1209)
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ID ABL13946 standard; cDNA; 3264 BP.
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145.00
87.88%
78.79%
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11-JUL-2000; 2000US-00614150.
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                                                                                                                                                  202 TGGGTGGAGTATCGT 216
                                                                                                                                       47 TrplleGluTyrGln 51
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     73.33% 54.29%
                                                                                                                                                                                                                                                                                                      Drosophila melanogaster.
                                                                                                                                                                                                                                                                                                                                                                                                                              Venter JC, Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-656860/75.
P-PSDB; ABB69843.
                                                                                                                                                                                                                                                                                                                                                                                                           (PEKE ) PE CORP NY.
    Best Local Similarity:
Query Match:
DB:
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Pred. No.:
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Score: Percent Similarity: Rest Local Similarity:

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The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from brosophila. The invention is useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of discloses genomic DNA sequences (ABLIGITG-ABLIGAT). expressed DNA sequences (ABLIGITG-ABLIGAT), expressed DNA sequences (ABLIGITG-ABLIGAT), expressed DNA SEQUENCE date for this patent did not form printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                         2092 GGACGCTTTGGCAACCAGGCCGACCACTGGGATCATTGGCCTTCGCCAAGGCGCTT 2033
                                                                                             19 GlyArgPheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeu*** 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell interactions.
                                                                                                                                                                                                                                                                                                                                                                                                                                Drosophila melanogaster expressed polynucleotide SEQ ID NO 36164.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Drosophila; developmental biology; cell signalling; insecticide; pharmaceutical; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Seguence 3793 BP; 1020 A; 853 C; 950 G; 970 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 1; SEQ ID NO 36164; 21pp + Sequence Listing; English.
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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                                                               US-09-774-954-3 (1-61) x ABL13946 (1-3264)
                                                                                                                                                                                                                                                                                                  ABL13894/c
ID ABL13894 standard; cDNA; 3793 BP.
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145.00
87.88%
78.79%
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11-JUL-2000; 2000US-00614150.
                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
     44.48%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Drosophila melanogaster.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-656860/75.
P-PSDB; ABB69791.
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Best Local Similarity:
Query Match:
DB:
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Pred. No.:
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                                                                                                                                                                                                                                                                                                                                                               ABL13894;
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human signal peptide-containing proteins HSPP-1 to HSPP-134. HSPPs have human signal peptide-containing proteins HSPP-1 to HSPP-134. HSPPs have anticancer, anti-inflammatory, antimicrobial, nootropic, hepatotropic, neuroprotective, cardiowascular and antiasthmatic activities, and can be used in gene therapy. HSPPs can be used to treat or prevent disorders associated with decreased activity or function of HSPP. Antagonists of HSPP are used to treat or prevent disorders associated with increased crivity or function of HSPP. Such diseases include cell proliferation (including cancer), inflammation, cardiowascular, neurological, reproductive or developmental disorders, (e.g. arteriosclerosis, crirhosis, psoriasis, acquired immune deficiency syndrome, anaemia, asthma, Crobn's disease, microbial or other infections, congestive or ischama, cathma, cathma, cathma, cathma, cathma, cathma, cathma, cathma, cathma, cathma, cathma, cathma, cathmana, cathmana, musular dystrophy). HSPP nucleic acids can be used for the recombinant production of HSPP, for detecting HSPP in standard hybridisation and amplification assays (for diagnosis and monitoring), in gene therapy, as antisense, triplex-forming
                                        584 GGACGCTTTGGCAACCAGGCCGACCACTTCCTGGGATCATTGGCCTTCGCCAAGGCGCTT 525
                                                                                                                                                                                                                                                                                                                                                             Human; signal peptide-containing protein; HSPP; diagnosis; cancer; inflammation; cardiovascular disease; anticancer; anti-inflammatory; antimicrobial; nootropic; neuroprotective; cardiovascular; hepatotropic; antiasthmatic; gene therapy; cell proliferation; neurological disorder; reproductive disorder; developmental disorder; arteriosclerosis; cirrhosis; psoriasis; acquired immune deficiency syndrome; anaemia; asthma; Crohn's disease; infection; Alzheimer's disease; schizophrenia; parkinson; s disease; Huntington's diseases; ovulatory defect;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New human signal peptide-containing proteins useful in treatment, prevention and diagnosis of e.g. cancer, inflammation and cardiovascular disease.
GlyArgPheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeu*** 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Corley NC, Guegler KJ, Baughn MR;
H, Patterson C, Reddy R, Hillman JL;
                                                                                                                                                                                                                                                                                                                             Human signal peptide containing protein HSPP-102 cDNA SEQ ID NO:236.
                                                                                                     524 AATCGCACCCTGATCCTGCCGCGTGGGTGGATATCGT 486
                                                                                39 ValArgihrLeuAlaValProProTrpIleGluTyrGln 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 9; Page 307; 327pp; English.
                                                                                                                                                                                                         AAZ98210 standard; cDNA; 760 BP
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Young J, Yue
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98US-0102686P.
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                                                                                                                                                                                                                                                                                         (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          muscular dystrophy; ss
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P-PSDB; AAY87325.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200000610-A2
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Akerblom J
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                                                                                                                                                                RESULT 11
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or ribozyme therapeutics, for detecting related sequences or genetic variations, and for chromosomal mapping. HSPP are also used to raise specific antibodies (Ab) and to screen for agonists and antagonists (potential therapeutic agents). Ab are used to diagnose, or monitor, HSPP -related diseases (in usual immunoassays), as therapeutic antagonists, in competitive drug screens, and for purification of HSPP from natural
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are: (1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense polypeptide or its fragment whose expression is inhibited by the antisense mucleic acid; (3) a host cell containing the vector; (3) an isolated polypeptide or its fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Zyskind JW;
Xu HH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New antisense nucleic acids, useful for identifying proteins or scre
for homologous nucleic acids required for cellular proliferation to
isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                   Antisense; ds; prokaryotic essential gene; cell proliferation;
drug design; gene.
                                                                                                                                     U; 0 Other;
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Mismatches:
                                                                                                                                   Sequence 760 BP; 171 A; 206 C; 220 G; 163 T; 0
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Yamamoto R,
                                                                                                                                                                                     Length:
Matches:
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Carr GJ,
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06-SEP-2001, 2001US-0094893.
25-OCT-2001, 2001US-0342923P.
08-FEB-2002, 2002US-00072851.
06-MAR-2002, 2002US-0362699P.
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                                                                                                                                                                                     0.3
76.00
83.33%
77.78%
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Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2003-029926/02.
P-PSDB; ABU33866.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mycobacterium avium
                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
Query Match:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACA37736;
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Wall D,
                                                                                                         sources
                                                                                                                                                                                        Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
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the polypaptide; (5) producing the polypaptide; (6) inhibiting cellular proliferation or the activity of a gene in an operon required for proliferation; (7) identifying a compound that influences the activity of the gene product or that has an activity against a biological pathway required for proliferation, or that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway in which a proliferation-required gene or its gene product lies or gene on which the test compound that inhibits proliferation of an compound's activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent to which each of the strains is present in a culture or collection of strains; or (13) identifying the target of a compound that inhibits the strains; or (13) identifying the target of a compound that inhibits the strains; or (13) identifying the target of a compound that inhibits the criminity proteins or screening for homologous nucleic acids required for proliferation to isolate candidate molecules for acids required for proliferation in cells other than S. aureus, S. typhimum.ium, required for proliferation in cells other than S. aureus, S. typhimum.ium, content of the printed specification, but was obtained in collectronic format directly from WIPO at the present equences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      346 TITIGARCECCAGGICGACTCGTTCGAGGIGACATCGCGTTCGCGGGACTGGACGTGCCG 405
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Non-naturally occurring peptide; anion pump protein; tuberculosis; hypersensitivity reaction; tuberculostatic; gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 594 BP; 67 A; 204 C; 238 G; 85 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           406 GIGCGCGGGTGTICAICCGCGCGCCCTGGGTGGAG 441
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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93US-00142558.
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69.50
56.25%
50.00%
21.32%
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Best Local Similarity:
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22-OCT-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
Pred. No.:
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The invention relates to a non-naturally occurring peptide of
Mycobacterium tuberculosis comprising an amino acid sequence of
Corresponding to an anion pump protein. The invention also relates to a
corresponding to an anion pump protein. The invention also relates to a
non-naturally occurring nucleic acid corresponding to a DNA sequence of
Nycobacterium tuberculosis or Mycobacterium leprae. The new peptide is
useful as a vaccine against Mycobacterium leprae. The new peptide is
leprae or for screening for new tuberculosis or Mycobacterium
leprae or for screening for new tuberculosis or Mycobacterium
cleprae or for screening for new tuberculosis or Mycobacterium leprae. The peptide may also be used to detect hypersensitivity reactions
reactions of individuals exposed to Mycobacterium tuberculosis or
Mycobacterium leprae. The proteins and peptides may be affixed to solid
supports to detect antibodies typical of hypersensitivity reactions, from
a patient's sera. This sequence tepresents Mycobacterium leprae DNA of
the invention. Note: The sequence tepresents withis patent did not form part
of the printed specification but was obtained in electronic format
directly from USPTO at seqdata.uspto.gov/sequence.html.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30298 TCCTGGGATCTGCGTRAATTC---CTCTGGGCGCCGAAGCTGGGCTGCTACGACTTCAA 30242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30241 CGCATTCACTGCTGCGCAACGTGATGATATTGGCCGGCGCCGGAGTGGGAGGCCGCTTCG 30182
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          32 LeuAlaPheAlaLysLeu***ValArgThrLeuAlaValProProTrpIleGluTyrGln 51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 42325 BP; 9673 A; 13128 C; 11330 G; 8194 T; 0 U; 0 Other;
              New Mycobacterium tuberculosis anion pump peptide useful for as tuberculosis vaccine and diagnosis of tuberculosis infection.
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23
6
14
25
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Matches:
Conservative:
Mismatches:
Indels:
                                                                         Disclosure, SEQ ID NO 131; 26pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADB53234 standard; DNA; 2720 BP
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42.65%
33.82%
21.01%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
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This invention describes novel isolated Streptococcus pneumoniae polynucleotides (see AAZ96173-Z96494) and their encoded proteins (see AAZ96173-Z96494) and their encoded proteins (see AAZ96122.786182). The DNA, vectors and host calls described in the method of the invention are useful for the recombinant expression of the polypeptides. The polypeptides are useful for treatment or prevention of disease, or diagnosis of disease related to expression or activity of such a polypeptide. They can also be used to screen for compounds which interact with and inhibit or activate such a polypeptide. The polypeptides (or DNA encoding them, via gene therapy) are also useful for inducing an immunological response in a mammal. The antagonists are useful to inhibit such bacterial polypeptides. The polypeptides are useful to identify antimicrobial compounds and antibiotics. They are also useful to determine their role in pathogenesis of
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872 GTGCTGGACCCTGAGGTGGACAGTCTCACGCCTTGGCAGCACTTAGTCCTACATGACTGG 931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Streptococcus pneumoniae proteins and related DNA - useful for screening compounds for antibacterial activity.
                                                                                                                                                                                                                                                                                                                                                   Treatment; prevention; disease; diagnosis; gene therapy; screening; bacterial; antimicrobial; antibiotic; pathogenesis; infection; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Knowles DJC, Lonetto MA, Nicholas RO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1660 BP; 467 A; 332 C; 379 G; 479 T; 0 U; 3 Other;
                                                                                             932 ATGTCAGAGGÁGTÁCTCCCÁCCTGGAGGACCCGTTTCTCAAGCTG 976
                                                        ----IleGluTyrGlnHisHisLysProProPheThrAsnLeu
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                                                                                                                                                                                                                                                                                                          S. pneumoniae derived DNA from ORF #157.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 4; Page 191-192; 640pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-774-954-3 (1-61) x AAZ96329 (1-1660)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  infection, dysfunction and disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (SMIK ) SMITHKLINE BEECHAM CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96US-0024022P
                                                                                                                                                                                    AAZ96329 standard; DNA; 1660
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Black MT,
                                                                                                                                                                                                                             AAZ96329;
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                                                                                                                                           RESULT 15
                                                                                                                                                                 AAZ96329
                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present invention describes a method for determining whether a compound induces a toxic effect on a tissue or cell. The method comprises preparing a gene expression profile of a tissue or cell sample exposed to the compound, and comparing the gene expression profile to a database comprising data or information on the Tox mean and non-Tox mean value. The method is useful for predicting or identifying at least one toxic effect, particularly hepatotoxicity, of a test or unknown compound. The genes listed in the specification are useful as diagnostic or toxicity markers for the prediction or identification of the physiological state of tissue or cell sample that has been exposed to a compound, or to identify or predict the toxic effects of a compound or an agent. These may also be used as markers for monitoring toxicity progression or for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Determining if a compound induces a toxic effect on a tissue or cell, for identifying hepatotoxic compounds, comprises comparing a gene expression profile of a tissue or cell sample to a database of Tox mean and non-Tox
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                751
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rat hepatocyte
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      drug screening. The present sequence represents a primary rat hepato
toxicity modelling related gene sequence from the present invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                            Castle A,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-774-954-3 (1-61) x ADB53234 (1-2720)
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Elashoff M;
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8 LeuAlaGlyTyrLeuLeuTyr***Pro***MetGlyArgPheGlyAsnGlnAlaAspHis 27
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48 IleGluTyr 50 ||| 1188 TCTGTTTAC 1196

Search completed: October 26, 2005, 09:51:41 Job time: 185.85 secs

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AF75884 Homo sapien
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BD103190 O-fucosyl
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Mus musculus protein o-fucosyltransferase (Pofut1) mRNA, complete
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AC09484 Rattus no
AC134371 Rattus no
AR163453 Sequence
BD103191 O-fucosyl
AJ81490 Drosophil
CQ590403 Sequence
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AR509393 Sequence
AB095572 Drosophil
AJ781502 Ciona sav
AJ781501 Drosophil
AK112708 Ciona int
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AR163452 Sequence
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Shi,S., Stanley,P., Wang,Y., Shao,L., Harris,R.J., Spellman,M.W.
and Haltiwanger,R.S.
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Submitted (02-MAY-2001) Cell Biology, Albert Einstein College
Medicine, 1300 Morris Park Ave., New York, NY 10461, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                O-fucosyltransferase
J. Biol. Chem. 276 (43), 40338-40345 (2001)
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HSM803330
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AF375885
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                                                         Command line parameters:
-MODEL=frame+ p2n.model -DEV=xlh
-Q=/Cgn2_1/USPTO spool h/USO9774954/runat_25102005_105432_6389/app_query.faata_1.917
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-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
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AR163457 Sequence
                                                                                                                         October 26, 2005, 05:08:04; Search time 1382.21 Seconds (without alignments) 2138.440 Million cell updates/sec
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326
1 RLAGSWDLAGYLLYXPXMGR......LAVPPWIEYQHHKPPFTNLH 61
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                      GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                               nucleic search, using frame_plus_p2n model
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                                                                                                                                                                                                                                                                                                                                                                                          4708233 segs, 24227607955 residues
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Maximum Match 100%
Listing first 45 summaries
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AR163457
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Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
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Searched:

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NIH-MGC Project URL: http://mgc.nci.nih.gov
Contact: MGC help desk
Email: cgapbs-r@mail.inih.gov
Tissue Procurement: Gilbert Smith, Ph.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies of Health Intramural
CDNA Library Preparation: Life Technologies of Health Intramural
DNA Sequencing Dy: National Institutes of Health Intramural
Sequencing Center (NISC)
Galthersburg, Maryland;
Web site: http://www.nisc.nih.gov/
Contact: nisc mgcompangri.nih.gov
Contact: nisc mgcompangri.nih.gov
Akhter,N. Ayele,K. Becketrom-Sternberg,S.M., Benjamin,B.,
Blakesley,R.W., Bouffard,G.G., Breen,K., Brinkley,C., Brooks,S.,
Blakesley,R.W., Holfard,G.G., Breen,K., Brinkley,C., Brooks,S.,
Hansen,N., Ho,S.-L., Karlins,B., Kwong,P., Laric,P., Legaspi,R.,
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McDowell,J., Pearson,R., Stantripop,S., Thomas,P.J., Tgurgeon,C., Vogt,J.L., Malker,M.A., Wetherby,K.D., Wiggins,L.,
Young,A., Zhang,L.-H. and Green,E.D.
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CWGRFQQAADHFLGSLAFAKLLNRTAVPPWISYDGHKPPTNLHAVSYCKFKLEPLQ
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HVSFNKSELPTGSFSASYKEQWTQRFPAKEHPVLALFGAPAQFPVLEEHRELGKYWV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             clone distribution: MGC clone distribution information can be found through the 1.M.A.G.B. Consortium/Likh at: http://image.llnl.gov Series: RRAK Plate: 100 Row: m Column: 11
This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 17978277.

Location/Qualifiers
1. .1529
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Worley, K.C., Hale, S., Garcia, A.M., Gay, L.J., Hulyk, S.W.,
Villalon, D.K., Muzny, D.M., Sodergren, E.J., Lu, X., Gibbs, R.A.,
Fahey, J., Helton, E., Ketteman, M., Madan, A., Rodrigues, S.,
Sanchez, A., Whiting, M., Madan, A., Young, A.C., Shevchenko, Y.,
Bouffard, G.G., Blakesley, R. W., Touchman, J.W., Green, E.D.,
Dickson, M.C., Rodriguez, A.C., Grimwood, J., Schmutz, J., Myers, R.M.,
Schnerch, A., Schein, J.E., Jones, S.J. and Marra, M.A.
Generation and initial analysis of more than 15,000 full-length
human and mouse cDNA sequences
Proc. Natl. Acad. Sci. U.S.A., 99 (26), 16899-16903 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Strausberg, R.
Direct Submission
Submitted (31-JAN-2003) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /codom_start=1
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AUTHORS
TITLE
JOURNAL
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COMMENT
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SM Mus musculus

Mus musculus

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

I (bases I to 1829)

E 1 (bases I to 1829)

Strausborg, R. L., Feingold, E. A., Grouse, L. H., Derge, J. G.,

Alteshul, S. F., Zeeberg, B. Buetow, K. H., Schaefer, C. F., Bhat, N. K.,

Hopkins, R. F., Jordan, H., Moore, T., Mang, J., Haieh, F.,

Diatchenko, L., Marusina, K., Farmer, A., Rubin, G. M., Hong, L.,

Stapleton, M., Soares, M. B., Bonaldo, M. F., Casavant, T. L.,

Scheetz, T. E., Brownstein, M. J. Usdin, T. B., Toshiyuki, S.,

Carnind; P., Parage, C., Raha, S. S., Loquellano, N. Peters, G. J.,

Abramson, R. D., Mullahy, S. G., Mogwalano, N. A., Peters, G. J.,

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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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Query Match:
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WSDEMVRTGEALISAHLVRPYVGIHLRIGSDWKNACAMLKOGTAGSHFWASPQCVGYS
RSTATPLTWIMCLPDLKEIQRAVTLWVRALNARSVYIATDSESYVSEIQQLFKDKVRV
VSLKPEVAQIDLYILGQADHFIGNCVSSFTAFVKRERDLHGRQSSFFGMDRFSQLRDE
F"
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Rattus norvegicus mRNA for protein-O-fucosyltransferase 1 (fut12
                                                                                                                                                                                                                                259
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Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae;
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Vaillant-Couturier, 94807, FRANCE
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A new superfamily of protein-O-fucosyltransferases, and alpha2-fucosyltransferases: and alpha2-fucosyltransferases: phylogeny and identification of conserved peptide motifs Glycobiology 13 (12), 1C-5C (2003)
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AJ781499.1 GI:50057067
Efull gene; protein-O-fucosyltransferase 1.
Rattus norvegicus (Norway rat)
Rattus norvegicus
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/gene="fut12"
/function="adds fucose to Ser or Thr"
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Matches:
Conservative:
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/mol_type="mRNA"
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AJ781499
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/ translation="MGAAMAPSHLLIRASFLLLLLLLLPLPLRGRAGGSWDLAGYLLY
CPCMGREGWORDPLAGSLAFAKLANFTLAVPWIEYQHKPPFTNLHVSYQKYFKLEP
CPCWGRFGWORDFLASTLAFAKLANFTLAVPWIEYQHKPPFTNLHVSYQKYFKLEP
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QFHVSFNKSELFTGISFSASYKEQWIQRFPPKEHPVLALPGAPAQFPVLEEHRELQKY
WWWSDEWNRTGEAQISTHLVRPYVGIHLRIGSDWKNACAMLKDGTAGSHFWASPQCVG
YSRSTATPLTTTMCLPDLKEIQRAVKLWVRALDARSVYIATDSESYVSEIQQLFKEKV
KVVSLKPEVAQIDLYILGQADHFIGNCVSSFTAFVKRERDLHGRESSFFCMDRPSGLR
DEP"
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product="protein-0-fucosyltransferase 1"

protein_id="CAH03711.1"

(db_xref="G1:50057068"
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Mismatches:
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# Unknown.
Unclassified.

# Lease 1 to 1100)

# Wang Y. and Spellman, M.W.

O-fucosyltransferase

O-fucosyltransferase

Location/Qualifiers

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90.16%
92.64%
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295.00
91.53*
91.53*
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AJ781500
Pan troglodytes mRNA for protein-O-fucosyltransferase 1 (fut12 gene)
AJ781500
AJ781500 GI:50057069
AJ781500 GI:50057069
Pan troglodytes (chimpanzee)
Pan troglodytes
                                                                                                                                                                                                                                                                                                                                                                                             76 GCGGGCTCCTGGGACCCGGCTGATACTGCTCTACTGCCCCTGCATGGGGCGCTTTGGG 135
                                                              Venter, C.J., Adams, M.C., Ii, P.W. and Myers, E.W.
Kits, such as nucleic acid arrays, comprising a majority of
Kits, such as nucleic acid arrays, comprising a majority of
humanexons or transcripts, for detecting expression and other uses
thereof
Patent: WO 02068579-A 13711 06-SEP-2002;
PR Corporation (NY) (US)
Location (NY) (US)
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Mammalia; Butheria; Primates; Catarrhini; Hominidae; Pan.
         Homo sapiens (human)
Homo sapiens ospiens
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Oriol, R.
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Phylogeny of fucosyltransferases
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Direct Submission
Direct Submitted (06-JUL-2004) Oriol R., US
Submitted (06-JUL-2004) Oriol R., US
Vaillant-Couturier, 94807, FRANCE
Location/Qualifiers
1. .167
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    .1167
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Up 2001527389-A/9

Up 2001527389-A/9

17-DEC-1997 JP 1998532877

17-DEC-1997 JV 08/792498,26-NOV-1997 US

31-DAN-1997 JV 08/792498,26-NOV-1997 US

NG WANG, MICHAEL W SPELLMAN

C12N15/54,C12N9/10,C07X16/40

Strandedness: Single;
Topology: Linear;
O-fucosyltransferase
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/organism='Unidentified'
Location/Qualifiers
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Sequence 13711 from Patent WO02068579.
CQ727777. GI:42294771
                                                                                                                                                   DNA
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|organism="unidentified"
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                                                     23 AsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeu***ValArgThrLeu 42
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08/978741 PI
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/organism='Unidentified'

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| Wang, Y. and Spellman, M.W.
O-fucosyltransferase
| Patent: JP 2011227389-A 2 25-DEC-2001;
| GENERYTECH INC |
| OS Unidentified |
| PN JP 2001527389-A/2 |
| PP 25-DEC-2001 |
| PF 17-DEC-1997 |
| PR 31-JAN-1997 US 08/792498, 26-NOV-1
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Indels:
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JP 2001527389-A/2
25-DEC-2001
17-DEC-1997 JP 1998532877
31-JAN-1997 US 08/792498,26-
WANG,MICHAEL W SPELLMAN
CI2N15/54,C12N9/10,C07K16/40
Strandedness: Single;
Topology: Linear;
O-fucosyltransferase
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Matches:
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LOCUS AR163451
DEFINITION Sequence 2 from patent US 6270987.
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JP 2001527389-A/2.
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BD103189
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EVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPKLRDEF"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                             1. .1167
gene="fut12"
function="adds fucose to Ser or Thr"
note="pofut1"
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Matches:
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Wang, Y. and Spellman, M.W.
O-fucosyltransferase
Patent: US 6270987-A 6 07-AUG-2001,
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="unknown"
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DEFINITION ACCESSION VERSION KEYWORDS SOURCE ORGANISM

RESULT 8 AR163452 LOCUS

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                                                                                                                                                                                              23 AsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLySLeu***ValArgThrLeu 4.2
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                        Unknown.

Unknown.

Unclassified.

E 1 (bases 1 to 1514)

S Wang Y. and Spellman, M.W.

O-fucosyltransferase

O-fucosyltransferase

In 1214

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Submitted (13-MAY-2003) MIPS, Ingolstaedter Landstr.1, D-85764
Submitted (13-MAY-2003) MIPS, Ingolstaedter Landstr.1, D-85764
Neuherberg, GERMANY
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKFZ); Email s.wiemann@dkfz-heidelberg.de;
sequenced by AGOWA (Berlin/Germany) within the cDNA sequencing
consortium of the German Genome Project.
This clone (DKFZp451J114) is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de Purther
information about the clone and the sequencing project is available
at http://mips.gsf.de/proj/cDNA/.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                           Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo. 1. (bases 1 to 4560) Wambutt, R., Heubner, D., Mewes, H.W., Weil, B., Amid, C., Osanger, A., Fobo, G., Han, M. and Wiemann, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /tissue type="human skeletal muscle"
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DH10B; sites NotI + SalI"
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sapiens mRNA; cDNA DKFZp451J114 (from clone DKFZp451J114).
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Homo sapiens KIAA0180 mRNA, complete cds.
D80002
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4538
                                             AL832023.1 GI:21732563
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                    Web site: http://www.nisc.nih.gov/
Contact: nisc_mgc@nhgri.nih.gov
Akhter,N., Ayele,K., Beckstrom-Sternberg,S.M., Benjamin,B.,
Blakesley,F.W., Bouffard,G.G., Breen,K., Brinkley,C., Brooks,S.,
Blakesley,N.L., Granite,S., Guan,X., Gupca,J., Haghighi,P.,
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Maduro,Q.L., Masiello,C., Maskeri,B., Mastrian,S.D., McCloskey,J.C.,
McDowell,J., Pearson,R., Stantripop,S., Thomas,P.J., Touchman,J.W.,
Tsurgeon,C., Vogt,J.L., Walker,M.A., Wetherby,K.D., Wiggins,L.,
Young,A., Zhang,L.-H. and Green,E.D.
                                                                                                                                                                                                                                                             Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LIANL at: http://image.llnl.gov Series: IRAL Plate: 5 Row: o Column: 9
This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 27436890.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /trānslation="mgaaawarplsysflllliplpgmpagswdpagyllycpcmgrr
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Isledfweklapthwppekrvaycfevaaqrspdkrtcpmkegnpfgpfwdgfhysfn
Kselftgisfsasyregwsqrrenhscytllfpr"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRI 13-MAY-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="synonyms: KIAA0180, O-FUT, O-Fuc-T, FUT12, MGC2482,
O-Fucr-1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   125 GCGGGCTCCTGGGACCCGGCCGGTTACCTGCTCTACTGCCCCTGCATGGGGGCGCTTTGGG 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23 AsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeu***ValArgThrLeu 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 AlaGlySerTrpAspLeuAlaGlyTyrLeuLeuTyr***Pro***MetGlyArgPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     43 AlaValProProTrplleGluTyrGlnHisHisLysProProPheThrAsnLeuHis 61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
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Matches:
Conservative:
Mismatches:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gabs:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene="POFUT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene="POFUT1"
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295.00
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DB:
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/function="catalyzes transfer of fucose from GDP-fucose to
serine or threonine on epidermal growth factor-like
repeats"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /trainilation="MGAAAWARPLSVSFLLLLPLPGWPAGSWDPAGYLLYCPCMGRF
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KYTGERQISHLWRPYVATHIRICRSPWANACHWALKOGTAGSHPMASPGCVGYSRSFRA
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EVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPKLRDEF"
                                                                                                                                                                                                                                                                                                           1 (bases 1 to 5249)
Wang, Y., Shao, L., Shi, S., Harris, R.J., Spellman, M.W., Stanley, P. and Haltiwanger, R.S.
Modification of epidermal growth factor-like repeats with O-fucose. Molecular cloning and expression of a novel GDP-fucose protein O-fucosyltransferase
J. Biol. Chem. 276 (43), 40338-40345 (2001)
                                                                                                                  AF375884 5249 bp mRNA linear PRI 23-OCT-2001
Homo sapiens protein o-fucosyltransferase (POFUT1) mRNA, complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chases 1 to 5249)
Shi,S., Stanley,P., Wang,Y., Shao,L., Harris,R.J., Spellman,M.W.
Shi,S., Stanley,P.,
Mand Haltiwanger,R.
Direct Submission
Submitted (02-MAY-2001) Cell Biology, Albert Einstein College of Medicine, 1300 Moris Park Ave., New York, NY 10461, USA
Location/Qualifiers
1. 5249
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3 AlaGlySerTrpAspLeuAlaGlyTyrLeuLeuTyr***Pro***MetGlyArgPheGly
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Matches:
Conservative:
Mismatches:
Indels:
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50. .1216
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Homo sapiens (human)
Homo sapiens
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AF375884
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VERSION
KEYWORDS
SOURCE
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                                                                                                                                                                                                                                                                                                       Obara, O., Nagase 1 to 5189)
Ohara, O., Nagase, T., Kikuno, R. and Nomura, N.
Direct Submission
Submitted (12-DEC-1995) Osamu Ohara, Kazusa DNA Research Institute;
1532-3, Yana, Kisarazu, Chiba 292-0812, Jagana
(E-mail:cdnainfo@kazusa.or.jp, Tel:+81-438-52-9913)
On May 9, 2002 this sequence version replaced gi:1136419.
1. .5189
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  The coding sequences of 40 new genes (KIAA0161-KIAA0200) deduced by analysis of cDNA clones from human cell line KG-1 DNA Res. 3 (1), 17-24 (1996) 96281124 8724849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chiang, P.W., Wang, S., Swithivas, P., Song, W.J., Ramamoorthy, S., Hillman, J., Plett, S., Van Keuren, M.L., Crombez, E., Kumar, A., Glover, T.W., Miller, D.E., Taai, C.H., Blackburn, C.C., Cheng, J.F., Korenberg, J.R. and Kurnit, D.M. Identification and analysis of the human and murine putative chromatin structure regulator SUPTGH and Supt6h
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Matches:
Conservative:
Mismatches:
Indels:
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Best Local Similarity:
Query Match:
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Search completed: October 26, 2005, 12:55:28 Job time : 1386.21 secs

(OTSEN) MWALE BLANK (USPTO)

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Compugen Ltd.
GenCore version
Copyright (c) 1993 - 2005
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OM protein - protein search, using sw model

October 25, 2005, 15:21:43; Search time 7.64066 Seconds (without alignments) 768.157 Million cell updates/sec Run on:

US-09-774-954-3 326 1 RLAGSWDLAGYLLYXPXMGR.....LAVPPWIEYQHHKPPFTNLH 61

Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283416 seqs, 96216763 residues Searched:

283416 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR\_79:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*
4: pir4:\* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

|      | Description   | hypothetical prote | О      | cholesterol oxidas |        | SpoE family protei |        |        | 8      | galactoside 2-alph | hypothetical prote |        | hypothetical prote | amidotransferase h | conserved hypothet | D-erythrose 4-phos | hypothetical prote | probable acetyltra | hypothetical prote | hypothetical prote | opsin, green-sensi | amino acid permeas | hypothetical prote | probable phospholi | hypothetical prote | phosphate ABC tran | lipoprotein signal | hypothetical prote | ä      | hypothetical prote |
|------|---------------|--------------------|--------|--------------------|--------|--------------------|--------|--------|--------|--------------------|--------------------|--------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------|--------------------|
|      | ID            | T15511             | E86957 | S72824             | 151266 | D95101             | E97969 | T40967 | F70736 | A36047             | T21217             | C70570 | S76943             | S72721             | B86968             | AE0875             | T22255             | A75475             | T21655             | T21662             | A42347             | AF0488             | T41004             | T02648             | C69879             | A70127             | A12377             | F83032             | T07964 | A70199             |
|      | DB            | 7                  | 7      | 7                  | ~      | 7                  | N      | ~      | ~      | ~                  | N                  | 7      | 7                  | ~                  | 7                  | 7                  | 7                  | 7                  | 7                  | 7                  | 7                  | 7                  | 7                  | ~                  | N                  | ~                  | ~                  | N                  | ~      | 7                  |
|      | engt          | 474                | 569    | 585                | 354    | 767                | 767    | 295    | 578    | 365                | 674                | 198    | 491                | 219                | 223                | 348                | 363                | 207                | 225                | 227                | 355                | 467                | 492                | 514                | 214                | 328                | 158                | 231                | 260    | 1465               |
| ) مد | tch           | 35.0               | 21.0   | 21.0               | 20.7   | 20.4               | 20.4   | 19.3   | 19.0   | 18.9               | 18.7               | 18.3   | 18.3               | 17.9               | 17.9               | 17.9               | 17.5               | 17.3               | 17.3               | •                  | 17.3               | 17.3               | 17.3               | 17.3               | ٠                  | 17.2               | 17.0               | 17.0               | 17.0   | 17.0               |
|      | Scor          | 114                | 68.5   | 68.5               | 67.5   | 66.5               | 66.5   | 63     | 62     | 61.5               | 61                 | 59.5   | 59.5               | ω.                 | 58.5               | 58.5               | 57                 | 56.5               | 56.5               | 56.5               | 56.5               | 56.5               | 56.5               | 9                  | 26                 | 26                 | വ                  | 55.5               | ß      | 55.5               |
| ,    | Kesuit<br>No. | -                  | 7      | ٣                  | 4      | S                  | y      | 7      | 80     | 6                  | 10                 | 11     | 12                 | 13                 | 14                 | 15                 | 16                 | 17                 | 18                 | 19                 | 20                 | 21                 | 22                 | 23                 | 24                 | 25                 | 56                 | 27                 | 28     | 29                 |

| NADH2 dehydrogenas<br>hypothetical prote | hypothetical prote probable aminotran | polyketide Bynthas<br>NADH2 dehydrogenas<br>NADH2 dehydrogenas | NADH2 dehydrogenas<br>NADH dehydrogenase<br>NADH2 dehydrogenas | ybdS protein - Esc<br>probable membrane | probable membrane<br>citrate carrier (i<br>fructose-bisphosph |
|------------------------------------------|---------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------------|
| T12357<br>T27763                         | T14795<br>T14795<br>AF3342            | T30226<br>T17056<br>T17059                                     | T12335<br>B90626<br>T11076                                     | B64795<br>G85560                        | C90710<br>AE0578<br>PARFAS                                    |
| 000                                      | 200                                   | 0 0 0                                                          | 000                                                            | н 0                                     | 777                                                           |
| 345                                      | 388<br>383<br>406                     | 8563<br>344<br>344                                             | 344<br>346<br>346                                              | 487                                     | 487<br>501<br>333                                             |
| 16.9                                     | 16.7                                  | 16.7<br>16.6<br>16.6                                           | 16.6<br>16.6                                                   | 16.6<br>16.6                            | 16.6<br>16.6<br>16.4                                          |
| 55.5                                     | . 4.0.<br>2.4.0.<br>2.0.0.            | 54.5<br>54.5                                                   | 5 4 4 4                                                        | 54                                      | 54<br>53.5                                                    |
| 30                                       |                                       | 36 37                                                          | 8 6 6<br>8 6 0                                                 | 417                                     | 44<br>44<br>5                                                 |

## ALIGNMENTS

| RESULT 1       |                                                                                           |
|----------------|-------------------------------------------------------------------------------------------|
| hypot          | Appthetical protein C15C7.1 - Caenorhabditis elegans<br>C.Snecies: Caenorhabditis elegans |
| C;Dat          | C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999               |
| C;Aco<br>R;Lei | C;Accession: T15511<br>R;Leimbach, D.                                                     |
| submi          | submitted to the EMBL Data Library, November 1995                                         |
| A; Des         | A;Description: The sequence of C. elegans cosmid C15C7.                                   |
| A;Ref          | A;Reference number: Z18363                                                                |
| A; Acc         | A, Accession: T15511                                                                      |
| A;Sta          | A;Status: preliminary; translated from GB/EMBL/DDBJ                                       |
| A; Mol         | A;Molecule type: DNA                                                                      |
| A;Res          | A;Residues: 1-474 <lei></lei>                                                             |
| A;Cro          | A;Cross-references: EMBL:U41528; NID:g1109795; PID:g1109800; PIDN:AAA83156.1; CESP:C15C7. |
| C; Gen         | C;Genetics:                                                                               |
| A;Gen          | A,Gene: CESP:C15C7.1                                                                      |
| A; Int         | A,Introns: 31/3; 67/2; 106/2; 166/1; 202/3; 235/3; 364/3; 410/3                           |
| One            | Ouery Match 35.0%; Score 114; DB 2; Length 474;                                           |
| Bes            | Similarity 64.7%; Pred. No. 3.2e-07;                                                      |
| Mat            | Matches 22; Conservative 4; Mismatches 8; Indels 0; Gaps 0;                               |
| à              | 19 GRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQH 52                                                  |
|                |                                                                                           |
| ď              | 166 GREGNOVDOFLGVLAFAKALDRTLVLPNFIBFKH 199                                                |

## 166 GRFGNQVDQFLGVLAFAKALDRTLVLPNFIBFKH 199 윱

probable cholesterol oxidase [imported] - Mycobacterium leprae

Cispecies: Mycobacterium leprae (cispecies: Redian) (cispecies: R.) Egidmeier, K.; Puthoy, S.; Feltwell, T.; Fraser, A.; Hamlin, N.; Holroyd, eam, M.A.; Rutherford, K.M.
Nature 409, 1007-1011, 2001
NA, theorems (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cispecies: Mill) (cisp

Query Match
21.0%; Score 68.5; DB 2; Length 569;
Best Local Similarity 33.8%; Pred. No. 0.45;
Matches 23; Conservative 6; Mismatches 14; Indels 25; Gaps

4

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Spoet family protein [imported] - Streptococcus pneumoniae (strain TIGR4)
C;Species: Streptococcus pneumoniae
C;Species: Streptococcus pneumoniae
C;Accession: 03-010 #sequence_revision 03-dug-2001 #text_change 09-Jul-2004
C;Accession: D55101
R;Tettedin, H: Nelson, K.E.; Paulsen, I.T.; Eisen, J.A.; Read, T.D.; Peterson, S.; Heidt
On, J.D.; Umayam, L.A.; White, O.; Salzberg, S.L.; Lewis, M.R.; Radune, D.; Holtzapple, I
nson, T.; Hickey, E.K.; Holt, I.E.
Science 293, 498-506, 2001
A;Authors: Loftus, B.J.; Yang, F.; Smith, H.O.; Venter, J.C.; Dougherty, B.A.; Morrison,
A;Authors: Loftus, B.J.; Yang, F.; Smith, H.O.; Venter, J.C.; Dougherty, B.A.; Morrison,
A;Authors: Loftus, R.J.; Mollocus Sequence of a virulant isolate of Streptococcus pneumoniae.
A;Accession: D55101
A;Accession: D55101
A;Accession: D55101
A;Molecule type: DNA
A;Residues: 1-767 < kurs
A;Korsa-references: UNIPROT:Q8D094; GB:AE005672; PIDN:AAK75005.1; PID:g14972351; GSPDB:GA
A;Cocs-references: UNIPROT:Q8D094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Legino protein [imported] - Streptococcus pneumoniae (strain R6)
C;Species: Streptococcus pneumoniae
C;Species: Streptococcus pneumoniae
C;Accession: 22-0ct-2001 #sequence_revision 22-0ct-2001 #text_change 09-Jul-2004
C;Accession: B97969
R;Hoskins, J.A.; Alborn Jr., W.; Arnold, J.; Blaszczak, L.; Burgett, S.; DeHoff, B.S.; Es, R;Hoskins, D.J.; Lee, L.N.; Lefkowitz, E.J.; Lu, J.; Matsushima, P.; McAhren, S.; Mc, P.; Sun, P.M.; Winkler, M.E.
J. Bacteriol. 183, 5709-5717, 2001
A;Authors: Yang, Y.; Young-Bellido, M.; Zhao, G.; Zook, C.; Baltz, R.H.; Jaskunas, S.R.; A;Authors: Yang, Y.; Young-Bellido, M.; Zhao, G.; Zook, C.; Baltz, R.H.; Jaskunas, S.R.; A;Recreace number: A97872; MUID:21429245; PMID:11544234
A;Accession: B97969
A;Status: preliminary
A;Mesidues: 1-767 «KUR.
A;Residues: 1-767 «KUR.
A;Cross-references: UNIPROT:Q8DQ94; GB:AE007317; PIDN:AAK99585.1; PID:g15458378; GSPDB:GP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein SPCC1450.18 - fission yeast (Schizosaccharomyces pombe) (Species Schizosaccharomyces pombe C.Species Schizosaccharomyces pombe C.Date: 03-Bec-1999 #sequence revision 03-Bec-1999 #text_change 09-Jul-2004 (C.Accession: T40967; T41000 revision M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; Barandeam, M.A.; 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Pred. No. 1.2;
5; Mismatches 19; Indels 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 66.5; DB 2; Length 767;
Pred. No. 1.2;
5; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LIGVALYIPTAFLFSNIGTYFIGSIL---ILVGSLLVSPWSVY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 LAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEY 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 LAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEY 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Cross-references: unitrodiscontration of A; Experimental source: strain TIGR4 c; Experimental source: strain TIGR4 b; Genetics: A; Gene: SP0878 c; Superfamily: Bacillus subtilis DNA translocase spollIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A,Gene: ftsK
C,Superfamily: Bacillus subtilis DNA translocase spoIIIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 37.2%;
Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 20.4%;
Best Local Similarity 37.2%;
Matches 16; Conservative
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C;Species: Astyanax mexicanus (Mexican tetra)
C;Decies: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Jul-2004
C;Dates: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Jul-2004
C;Accession: 151266
R;Register, E.A.; Yokoyama, R.; Yokoyama, S.
J. Mol. Evol. 39, 268-273, 1994
A;Register, E.A.; Yokoyama, S.
J. Mol. Evol. 39, 268-273, 1994
A;Reference number: 151266, MUID:95018302; PMID:7932788
A;Accession: 151266
A;Actus: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Accession: 1-354 «RBC>
A;Cross-references: UNIPROT:P51474; GB:875255; NID:g807171; PIDN:AAB32221.1; PID:g807172
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cholesterol oxidase (EC 1.1.3.6) choD - Mycobacterium leprae
N.Alternate names: B1620_C3_240 protein
Cispecias: Mycobacterium leprae
Cispecias: Mycobacterium leprae
Cipacesion: S72824
Ciscession: S72824
Ciscession: Mycobacterium leprae cosmid B1620.
A.Description: Mycobacterium leprae cosmid B1620.
A.Description: Mycobacterium leprae cosmid B1620.
A.Accession: S72824
A.A.Accession: S72824
A.A.A.Cosmid: DAA
A.S.A.Cosmid: DAA
A.R.A.Cosmid: DA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Gene: rhllAf
A;Introns: 124/1; 180/2; 235/3; 315/3
C;Superfamily: vertebrate rhodopsin
C;Keywords: chromoprotein; eye;G protein-coupled receptor; lipoprotein; phosphoprotein;
F;299/Binding site: retinal (Lys) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5 SWDLAGYLLYXPXMGRFGNQADHFL------GSLAFAKLXVRTLAVPPWIEYQ 51
                                                             48 SWDLRKF-LWAPKLGCYGIQRIHLLRNVMILAGAGVGGSLNYA----NTLYVPP---- 97
---GSLAFAKLXVRTLAVPPWIEYQ 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25;
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Pred. No. 0.36;
6; Mismatches 28; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 21.0%; Score 68.5; DB 2; Best Local Similarity 33.8%; Pred. No. 0.47; Matches 23; Conservative 6; Mismatches 14;
            5 SWDLAGYLLYXPXMGRFGNQADHFL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 29.1%;
Matches 16; Conservative 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A,Gene: choD
A,Start codon: GTG
C,Keywords: oxidoreductase
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                                                                                                                                                                                                                                                                                                                  98 --EPFFAN 103
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AjMolecule type: DNA
A;Residues: 1-198 «COL»
A;Cross-references: UNIPROT:006210; GB:Z95387; GB:AL123456; NID:g3261763; PIDN:CAB08636.1
A;Experimental source: strain H37Rv
C;Genetics:
A;Gene: Rv2604c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Residues: 1-674 <WIL>
A;Cross-references: UNIPROT:Q93550; EMBL:Z81016; PIDN:CAB02665.1; GSPDB:GN00028; CESP:F21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hypothetical protein Rv2604c - Mycobacterium tuberculosis (strain H37RV)
C, Species: Mycobacterium tuberculosis
C, Species: Mycobacterium tuberculosis
C, Species: Mycobacterium tuberculosis
C, Space: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 09-Jul-2004
C, Accession: C70570
R; Comnor, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Gordon, S.; Comnor, R.; Davies, R.; Devlin, K.; Feltwell, T.; Gentles, S.; Hamin, N.; Holroyd, S. Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S.
Nature: 393, 537-544, 1998
A; Authors: Squares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G.
A; Rieference number: A00500; MUID: 98298597; PMID: 9634230
A; Accession: C70570
A; Accession: C70570
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                                                                                                                                                                                                                                                                                                                                                            77 LSGTWTV-----YPN-GREGNOMGOYATLLALAQLNGRRAFILPAMHAALAPVFRITLP 129
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T21217
R;Mortimore, B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 GSWDLAGYLLYXPXM-----GRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFT
                      A;Molecule type: mRNA
A;Rosidues: 1.356 - FLAR>
A;Cross-references: UNIPROT:P19526; GB:M35531; NID:9183887; PID:9306830
C;Keywords: glycosyltransferase; hexosyltransferase; transmembrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Introns: 58/3; 149/1; 181/3; 213/3; 286/1; 327/2; 457/2; 509/3; 608/1
                                                                                                                                                                                                                                        43;
                                                                                                                                                                           Length 365;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 18.7%; Score 61; DB 2; Length 674; Best Local Similarity 27.4%; Pred. No. 5.4; Matches 17; Conservative 14; Mismatches 25; Indels
                                                                                                                                                                                                                                     20;
                                                                                                                                                                                                                                                                                                  2 LAGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 130 VLAPEVDSRTPWRELQLHDWMSEEYADLRDPFLKL 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein F21G4.1 - Caenorhabditis elegans
                                                                                                                                                                              DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                             44 V------PPWIEYQHH-------KPPFTNL 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A,Status: preliminary; translated from GB/EMBL/DDBJ
A,Molecule type: DNA
                                                                                                                                                                        18.9%; Score 61.5; DE 27.4%; Pred. No. 2.4; trive 6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 submitted to the EMBL Data Library, October 1996 A;Reference number: Z19392 A;Accession: T21217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Experimental source: clone F21G4
                                                                                                                                                           Query Match
Best Local Similarity 27.4%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Genetics:
A;Gene: CESP:F21G4.1
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418 SI 419
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Proc., Natl. Acad. Sci. U.S.A. 87, 6674-6678, 1990
A.Title: Molecular cloning, sequence, and expression of a human GDP-L-fucose:beta-D-gala A;Reference number: A36047; MUID:90370848; PMID:2118655
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R;Cole, S.T.; Brosch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Gordon, S.; Connor, R.; Brosch, R.; Peulin, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; Holroyd, S.; Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S.
Nature 393, 537-544, 1998
A,Authors: Sqares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G.
A,Title: Deciphering the biology of Mycobacterium tuberculosis from the complete genome A,Reference number: A70500; MUID:98295987; PMID:9634230
                                                                                          A; Residues: 1-562 <LXN>
A; Residues: 1-562 <LXN>
A; Cross=references: UNIPROT:094575; EMBL:AL031966; PIDN:CAA21436.2; GSPDB:GN00068; SPDB: A; Experimental source: strain 972h-; cosmid c1442
R; Lyne, M.; Rajandream, M.A.; Barrell, B.G.; Volckaert, G. submitted to the EMBL Data Library, March 1999
A; Reference number: Z21962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Residues: 1-578 <COL>
A;Cross-references: UNIPROT:057307; GB:Z77165; GB:AL123456; NID:93261609; PIDN:CAB01014
                                                                                                                                                                                                                                                                                                                         A.Status: preliminary; translated from GB/EMBL/DDBJ
A,Molecule type: DNA
A,Molecule type: DNA
A,Rosidues: 1-562 -LV2>
A,Cross-references: EMBL:AL049559; PIDN:CAB40185.1; GSPDB:GN00068; SPDB:SPCC1450.18
A,Experimental source: strain 972h-; cosmid c1450
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A, Status: preliminary; nucleic acid sequence not shown; translation not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            probable choD protein - Mycobacterium tuberculosis (strain H37RV)
C;Species: Mycobacterium tuberculosis
C;Date: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         galactoside 2-alpha-L-fucosyltransferase (EC 2.4.1.69) - human
C;Species: Homo sapiens (man)
C;Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Introns: 58/3
C;Superfamily: Schizosaccharomyces pombe hypothetical protein SPCC1450.18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---GSLAFAKLXVRTLAVPP 46
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Local Similarity 36.4%; Pred. No. 3.4;
les 20; Conservative 5; Mismatches 12; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 63; DB 2; Length 562;
Pred. No. 2.4;
6; Mismatches 8; Indels
                                                             Status: preliminary; translated from GB/EMBL/DDBJ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S SWDLAGYLLYXPXMGRFGNQADHFLGSLA 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Experimental source: strain H37Rv C; Genetics: A; Gene: choD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 44.8%;
Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gene: SPCC1450.18; SPCC1442.02
A;Reference number: Z21961
A;Accession: T40967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                  Accession: T41000
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Best Local·S
Matches 20
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us-09-774-954-3.rpr

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C, Superfamily: conserved hypothetical protein HI1648

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Legythrose 4-phosphate dehydrogenase [imported] - Salmonella enterica subsp. enterica se C; Species: Salmonella enterica subsp. enterica serovar Typhi A;Note: this species has also been called Salmonella typhi A;Note: this species has also been called Salmonella typhi C;Date: 09-Nov-2001 #sequence_revision 09-Nov-2001 #text_change 18-Nov-2002 C; Accession: AE0875 R;Parkhill, J; Dough, G; James, K.D.; Thomson, N.R.; Pickard, D.; Wain, J.; Churcher, R;Parkhill, J; Dough, B; Cronin, A.; Davis, P.; Davies, R.M.; Dowd, L.; White, N.; Farrar, S.; Moule, S.; O'Gaora, P.; Cronin, A.; Davis, R.; Simmonds, M.; Skelton, J.; Stevens, K.; A;Atlute 413, 848-852, 2001 A;Atlute 413, 848-852, 2001 A;A;Title: Complete genome sequence of a multiple drug resistant Salmonella enterica serove A;Reference number: AB0502; MUID:21534947; PMID:11677608
                                                                                                                                                                                                                                                                     Deceased hypothetical protein ML0474 [imported] - Mycobacterium leprae
C;Species: Mycobacterium leprae
C;Species: Mycobacterium leprae
C;Species: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 09-Jul-2004
C;Accession: B86968
R;Cole, S.T.; Eiglmeier, K.; Parkhill, J.; James, K.D.; Thomson, N.R.; Wheeler, P.R.; Hor R; Davies, R.M.; Devlin, K.; Duthoy, S.; Feltwell, T.; Fraser, A.; Hamlin, N.; Holroyd, Bature 409, 1007-1011, 2001
A;Authors: Rutter, S.; Seeger, K.; Simon, S.; Simmonds, M.; Skelton, J.; Squares, R.; Sq. A;Title: Massive gene decay in the leprosy bacillus.
A;Reference number: A86909; MulD:21128732; PMID:11234002
A;Accession: B86968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Status: preliminary
A;Molecule Type: DNA
A;Residues: 1-223 <STO>
A;Cross-references: UNIPROT:Q9CCT5; GB:AL450380; NID:g13092704; PIDN:CAC29982.1; GSPDB:GR
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A;Nolccule type: DNP
A;Residues: 1-348 < PAR>
A;Residues: 1-348 < PAR>
A;Residues: GB:AL513382; PIDN:CAD02901.1; PID:g16504154; GSPDB:GN00176
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Best Local Similarity 43.8%; Pred. No. 3.4;
Matches 14; Conservative 4; Mismatches 11; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 35.8%; Pred. No. 5.6;
Matches 19; Conservative 4; Mismatches 25; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Gene: STY3228
C;Superfamily: glyceraldehyde-3-phosphate dehydrogenase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Gene: ML0474
C;Superfamily: conserved hypothetical protein HI1648
141 FGRQVDSFEGDIGFAGLVDPVRAVFIRAPWVE 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21 FGNOADHFLGSLAFAKLX - VRTLAV-PPWIE 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Search completed: October 25, 2005, 15:36:43 Job time : 9.64066 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Genetics:
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AE0875
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MyAlternate names: B1177 Cl_149
C.Species: Mycobacterium leprae
C.Species: Mycobacterium leprae
C.Saccesion: S72721
R.Smith, D.R.; Robison, K.
Swith, D.R.; Robison, K.
Swith, D.R.; Robison, K.
A.Description: Mycobacterium leprae cosmid B1177.
A.Reference number: S72694
A.Reference number: S72694
A.Residues: preliminary
A.Molecule type: DNA
A.Residues: 1-219 <SMI>A.Residues: 1-219 <SMI>A.Cross-references: UNIPROT:Q49637; EMBL:U00011; NID:g466807; PIDN:AAA17085.1; PID:g4668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A.Reference number: S74322; MUID:97061201; PMID:8905231
A.Accession: S76943
A.Status: preliminary
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CiSpecies: Synechocystis sp.
A;Variety: PCC 6803
C;Species: Synechocystis sp.
C;Species: Synechocystis sp.
C;Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 09-Jul-2004
C;Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 09-Jul-2004
C;Accession: S76943
R;Kaneko, T.; Sato, S.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Y.; Miyajima, N.; O, Wumura, S.; Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, M.; Yasuda DNA Res. 3, 109-136, 1996
A;Title: Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3;
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                                                                                                                                                                                                                                                                                                           3 AGSWDLAGYLLYXPXMGR------FGNQADHFLGSLAFAKLX--VRTLAV 44
                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
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Best Local Similarity 26.6%; Pred. No. 6.1;
Matches 17; Conservative 9; Mismatches 27; Indels 11;
                                                                                                       / Match 18.3%; Score 59.5; DB 2; Length 198; Local Similarity 31.8%; Pred. No. 2.2; length 198; les 21; Conservative 6; Mismatches 20; Indels 19;
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17.9%; Score 58.5; DB 2; Length 219;
Best Local Similarity 43.8%; Pred. No. 3.4;
Matches 14; Conservative 4; Mismatches 11; Indels 3;
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A;Gene: hisH C;Superfamily: conserved hypothetical protein H11648

: | 148 MSEL 151 57 FTNL 60

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RESULT 13 S72721

21 FGNQADHFLGSLAFAKLX -- VRTLAV - PPWIE 49

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October 25, 2005, 15:20:23 ; Search time 38.8296 Seconds (without alignments) 607.588 Million cell updates/sec
                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                    326
1 RLAGSWDLAGYLLYXPXMGR.....LAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                                                                                                                                                                                                           2105692
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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Maximum Match 100%
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Gapop 10.0 , Gapext 0.5
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1: geneseqp1980s:*
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Maximum DB seq length: 2000000000
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Perfect score:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

|           |            | Description  |          | Aaw80574 N-termina | Aaw80571 Human hea | Abm82223 Tumour-as |          |          |          |          | Abb63790 Drosophil | Aaw80575 N-termina | -        |          | Str      |          | Š        | Aau37750 Streptoco |          |          | _        |          |          | Aar45936 A glycosy |          |          | Aar70422 2-Alpha-f |
|-----------|------------|--------------|----------|--------------------|--------------------|--------------------|----------|----------|----------|----------|--------------------|--------------------|----------|----------|----------|----------|----------|--------------------|----------|----------|----------|----------|----------|--------------------|----------|----------|--------------------|
| SUMMARIES |            | ID           | AAW80572 | AAW80574           | AAW80571           | ABM82223           | AAW80573 | AAM78377 | AAM79361 | AAW80577 | ABB63790           | AAW80575           | AAY87325 | ABU33866 | ADK48560 | ABU01274 | ADR94975 | AAU37750           | AAU38005 | ABU45987 | AAY81596 | AAW97416 | AAR13751 | AAR45936           | AAR70421 | AAR80154 | AAR70422           |
|           |            | DB           | 0        | ~                  | ~                  | 80                 | ~        | 4        | 4        | ~        | 4                  | ~                  | ო        | 9        | œ        | 9        | 80       | 4                  | 4        | 9        |          | ~        |          | 7                  |          | 7        | 7                  |
|           |            | Match Length | 61       | 61                 | 365                | 388                | 397      | 417      | 417      | 343      | 402                | 28                 | 150      | 198      | 737      | 741      | 763      | 767                | 767      | 167      | 768      | 783      | 365      | 365                | 365      | 365      | 365                |
|           | &<br>Query | Match        | 98.2     | 90.5               | 90.5               | 90.5               | 90.5     | 71.3     | 9.79     | 62.6     | 54.3               | 24.8               | 23.3     | 21.3     | 20.4     | 20.4     | 20.4     | 20.4               | 20.4     | 20.4     | 20.4     | 20.4     | 18.9     | 18.9               | 18.9     | 18.9     | 18.9               |
|           |            | Score        | 320      | 295                | 295                | 295                | 295      | 232.5    | 220.5    | 204      | 177                | 81                 | 16       | 69.5     | 66.5     | 66.5     | 66.5     | 66.5               | 66.5     | 66.5     | 66.5     | 66.5     | 61.5     | 61.5               | 61.5     | 61.5     | 61.5               |
|           | Result     | No.          | П        | 7                  | m                  | 4                  | ß        | 9        | 7        | 89       | 6                  | 10                 | 11       | 12       | 13       | 14       | 15       | 16                 | 17       | 18       | 19       | 20       | 21       | 22                 | 23       | 24       | 25                 |

| Aar90572 Human H-t | Aaw23805 Human alp | Aaw13640 Human alp | Aay97279 Human H-t | Aae29230 Human alp | Adn25627 Bacterial | Abu36823 Protein e |            | -          | Abm69163 Photorhab | Abu35781 Protein e |            | Aaw30630 Swine alp | Aaw97356 Swine alp | Aay79302 Pig alpha | Aab47995 Swine alp | Adr88379 Caenorhab | Adn23009 Bacterial | Abb91896 Herbicida | Abp42996 Human ova |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------|------------|--------------------|--------------------|------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 2 AAR90572         | 2 AAW23805         | 2 AAW13640         | 3 AAY97279         | 5 AAE29230         | 8 ADN25627         | 6 ABU36823         | 6 ABU34438 | 2 AAR63066 | 6 ABM69163         | 6 ABU35781         | 2 AAW53102 | 2 AAW30630         | 2 AAW97356         | 3 AAY79302         | 5 AAB47995         | 8 ADR88379         | 8 ADN23009         | 5 ABB91896         | S ABP42996         |
| 365                | 365                | 365                | 365                | 365                | 580                | 198                | 198        | 340        | 366                | 223                | 365        | 365                | 365                | 365                | 365                | 322                | 363                | 514                | 245                |
| 18.9               | 18.9               | 18.9               | 18.9               | 18.9               | 18.6               | 18.3               | 18.3       | 18.3       | 18.1               | 17.9               | 17.9       | 17.9               | 17.9               | 17.9               | 17.9               | 17.5               | 17.5               | 17.3               | 17.2               |
| 61.5               | 61.5               | 61.5               | 61.5               | 61.5               | 60.5               | 59.5               | 59.5       | 59.5       | 29                 | 58.5               | 58.5       | 58.5               | 58.5               | 58.5               | 58.5               | 57                 | 5.2                | 56.5               | 99                 |
| 26                 | 27                 | 28                 | 29                 | 30                 | 31                 | 32                 | 33         | 3.4        | 35                 | 36                 | 37         | 38                 | 36                 | 40                 | 41                 | 42                 | 4.4                | 4 4                | 45                 |

## ALIGNMENTS

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The
                                                                                                                                                                                                                                                                                                                                                                                                                                             Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving overexpression of the enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This represents the N-terminal sequence of CHO O-fucosyltransferase. enzyme can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG
                                                                                                               O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human.
                                                                                         N-terminal amino acid sequence of CHO O-fucosyltransferase.
                                                                                                                                                                           Location/Qualifiers
                      ¥.
                                                                                                                                                                                                  'note= "unknown"
                                                                                                                                                                                                                                                "unknown"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 5; Page 69; 90pp; English.
                                                                                                                                                                                                                        /note= "unknown"
                      AAW80572 standard; peptide; 61
                                                                                                                                                                                                                                                                                                                                           97US-00792498.
97US-00978741.
                                                                                                                                                                                                                                                                                                                     97WO-US023401.
                                                                    (first entry)
                                                                                                                                                                                                                                                /note=
                                                                                                                                                                                                                                                                                                                                                                              (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                     Spellman MW;
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                                                                                                                                                                                                              Misc-difference 17
                                                                                                                                                                                       Misc-difference
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                                                                                                                                                      Homo sapiens.
                                                                                                                                                                                                                                                                                                                      17-DEC-1997;
                                                                                                                                                                                                                                                                                                                                             31-JAN-1997;
                                                                                                                                                                                                                                                                                                                                                        26-NOV-1997;
                                                                   16-DEC-1998
                                                                                                                                                                                                                                                                        WO9833924-A1
                                                                                                                                                                                                                                                                                               06-AUG-1998
                                             AAW80572;
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RESULT 1
            AAW80572
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Gaps

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Indels

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Mismatches

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54; Conservative

Matches

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This represents a the N-terminal sequence of the human heart Of the Quoosyltransferase that can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-
                                                                                                                                                                                     ö
domains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-
                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                         1 RLAGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNL 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving
                                                                                                                                                                                                                       1 RLAGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNL
                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-terminal amino acid sequence of human heart O-fucosyltransferase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart.
                                                                                                                                                                                     ;
                                                                                                                                                     Length 61;
                                                                                                                                                                                   0; Indels
                                                                                                                                                   98.2%; Score 320; DB 2; I
100.0%; Pred. No. 9.3e-38;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                      AAW80574 standard; peptide; 61 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 4; Page 69; 90pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             overexpression of the enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97US-00792498.
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                                                                                                                                               Query Match
Best Local Similarity 100.0
Matches 61, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1998-437477/37.
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                                                                                      fucosyltransferase
                                                                                                                      Sequence 61 AA;
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26-NOV-1997;
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AAW8057
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Length 61;

Score 295; DB 2; Pred. No. 3.5e-34;

90.5%;

Query Match Best Local Similarity

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This represents a human heart O-fucosyltransferase that can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. diagnosis and treatment of conditions associated with overexpression of fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-fucosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
 61
                3 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human O-fucosyl:transferase able to glycosylate epidermal growth factor
domains - useful for diagnosis and treatment of diseases involving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH
3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps

    .61
    /note= "N-terminal sequence claimed for in claim 4"

                                                                                                                                                                                                                    O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart.
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                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABM82223 standard; protein; 388 AA
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                                                                                                                                                                                            Human heart O-fucosyltransferase.
                                                                                                      AAW80571 standard; protein; 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          domains - useful for diagnosi
overexpression of the enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                             97US-00792498.
                                                                                                                                                                                                                                                                                                                                                                                                             97WO-US023401
                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wang Y, Spellman MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1998-437477/37.
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 365 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                              31-JAN-1997;
26-NOV-1997;
                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                        WO9833924-A1
                                                                                                                                                                                                                                                                                                                                                                                                                  17-DEC-1997;
                                                                                                                                                                16-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                      06-AUG-1998.
                                                                                                                                                                                                                                                                                                            Peptide
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Matches
                                                                        RESULT 3
AAW80571
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ID ABM
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Human O-fucosyltransferase sequence expressed by a plasmid insertion.

(first entry)

16-DEC-1998

AAW80573;

O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart.

Homo sapiens. Synthetic.

27. .32 /note≃ "polyhistidine tag" Location/Qualifiers

97WO-US023401. 97US-00792498 97US-00978741

17-DEC-1997; 31-JAN-1997;

06-AUG-1998.

WO9833924-A1

Peptide

(GETH ) GENENTECH INC.

26-NOV-1997;

Spellman MW;

Wang Y,

WPI; 1998-437477/37.

N-PSDB; AAV65633

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The invention relates to human tumour-associated aniu-genic carget. Uraxi, polypeptides, and their related nucleic acids. The TAT polypeptides are overexpressed in cancer tissues compared to normal tissues, and may thus serve as effective targets for the diagnosis and treatment of cancer in mammals. The invention also relates to nucleic acid and polypeptide acids and polypeptides at least 80% identical to the TAT nucleic acids and polypeptides; antibody specific for a TAT polypeptide; a specific or a TAT polypeptide; a specific or organic molecule which binds to a TAT polypeptide; fusion proteins comprising a TAT polypeptide; and methods and compositions for the treatment or diagnosis of cancer in mammals. TAT polypeptides, nucleic acids, antibodies, antagonists, binding molecules and compositions are useful for diagnosing or treating a cell proliferative disorder associated with increased TAT expression, particularly cancers such as breast cancer, colorectal cancer, lung cancer, oversian cancer, lung cancer, cervical cancer, cancers of the central cancer, manning in TAT pulverseatic cancer, earlier and leukaemia TAT nucleic acids may further be cancer the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the cancer in the can
                                                                                                                   Tumour-associated antigenic target (TAT) polypeptide PRO83146, SEQ:5726.
                                                                                                                                                                  Tumour-associated antigenic target; TAT; human; overexpression; cancer; tumour; diagnosis; cell proliferative disorder; breast cancer; colorectal cancer; lung cancer; ovarian cancer; liver cancer; central nervous system cancer; bladder cancer; pancreatic cancer; cervical cancer; melanoma; leukaemia; hybridisation probe; chromosome identification; chromosome mapping; gene mapping;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to human tumour-associated antigenic target (TAT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New tumor-associated antigenic target polypeptides and nucleic acids, useful in preparing a medicament for treating or detecting a proliferative disorder, e.g. breast, lung, colorectal, ovarian or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  used as hybridisation probes, in chromosome and gene mapping, in chromosome identification and in gene therapy. The present sequence represents a TAT polypeptide of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'Match 90.5%; Score 295; DB 8; Length 38 Local Similarity 91.5%; Pred. No. 3.1e-33; Local 54; Conservative 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 12; SEQ ID NO 5726; 7273pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-SEP-2003; 2003WO-US028547.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-OCT-2002; 2002US-0414971P
                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    prostate cancer or tumor.
                                                                                                                                                                                                                                                                                                                                                          gene therapy; cytostatic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zhou
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (GETH ) GENENTECH INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zhang Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; ACN40746.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO2004030615-A2
                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens.
                                                           18-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15-APR-2004
ABM82223;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wu TD,
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Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving

Example; Fig 13B; 90pp; English.

overexpression of the enzyme.

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This represents the amino acid sequence of the human heart O-fucosyltransferase expressed by a plasmid insertion. The human O-fucosyltransferase can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferase, to promote survival of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           with overexpression of O-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; cytokine; cell proliferation; cell differentiation; gene therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  35 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 397;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 295; DB 2;
Pred. No. 3.2e-33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
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nes 54; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    fucosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 397 AA;
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AAM78377
ID AAM7
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AC AAM7
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DT 06-N
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Gaps

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Length 388;

Query Match

Best Loc Matches

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61

AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFANLLNRTLAVPPWIEYQHHKPPFTNLH 84

AAW80573 standard; protein; 397 AA

RESULT 5 AAW80573 ID AAW8(

3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPFWIEYQHHKPPFTNLH

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nervous system disorder; arthritis; inflammation.
                                                                                                                                                                                                                                             (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 417 AA;
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                                                    WO200157190-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16-DEC-1998
                                                                                                                              03-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW80577;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to polynucleotides (AAKS1456-AAKS3435) and the encoded polypeptides (AAM78323-AAM80302) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, heematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity tissue growth factor activity, immunomodulatory activity and activity insue growth factor activity, immunomodulatory activity and inflammation. Note: Records for SEQ ID NO 2100 (AAKS2581), 2111 (AAKS2582) and 3666 (AAM80420) are omitted as the relevant pages from the sequence listing were missing at the time of publication
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nucleic acids encoding polypeptides with cytokine-like activities, useful in diagnosis and gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 DLAGYLLYXPXM-----GRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human, cytokine, cell proliferation, cell differentiation, gene therapy, vaccine, peptide therapy, stem cell growth factor, haematopoiesis, tissue growth factor, immunomodulatory, cancer, leukaemia,
                                                                                                                                                                                                                                                                                                 Xu C, Cao Y;
, Chen R, Wang ZW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5; Gaps
vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorder; arthritis; inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            y Match 71.3%; Score 232.5; DB 4; Length 417; Local Similarity 73.3%; Pred. No. 3e-24; hes 44; Conservative 4; Mismatches 7; Indels 5;
                                                                                                                                                                                                                                                                                                Liu C, Drmanac RT, Asundi V, Zhou P, Xi
ao QA, Wang D, Wang J, Zhang J, Ren F,
Yang Y, Wejhrman T, Goodrich R;
                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 20; Page 3276-3277; 6221pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAM79361 standard; protein; 417 AA
                                                                                                                                                        03-FEB-2000; 2000US-00496914.
27-AFR-2000; 2000US-00560875.
20-UDN-2000; 2000US-00590075.
19-UJL-2000; 2000US-006328.
01-SEP-2000; 2000US-00654936.
15-SEP-2000; 2000US-00653561.
20-CTT-2000; 2000US-0063325.
30-NOV-2000; 2000US-00728422.
                                                                                                                                                                                                                                                                                                 Tang YT, Liu C, Drmanac RT,
Ma Y, Zhao QA, Wang D, Wang
Xue AJ, Yang Y, Wejhrman T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human protein SEQ ID NO 3007.
                                                                                                                                 05-FEB-2001; 2001WO-US004098
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                                                                                                                                                                                                                                                                                                                                                    WPI; 2001-476283/51.
                                                                                                                                                                                                                                                                          (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                    N-PSDB; AAK51510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 417 AA;
                                                                               WO200157190-A2
                                                        Homo sapiens.
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                                                                                                      09-AUG-2001.
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Best Local S:
Matches 44
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The invention relates to polymuclectides (AAK51456-AAK53435) and the encoded polypeptides (AAM78323-AAM80302) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polymuclectides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides are useful in gene therapy, vaccines or e.g. stem cell growth factor activity, haematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity tissue growth factor activity, immunomodulatory activity and activity tissue growth factor activity, immunomodulatory activity and activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: Records for SEQ ID NO 2110 (AAK52581), 2111 sequence listing were missing at the time of publication
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic acids encoding polypeptides with cytokine-like activities, useful in diagnosis and gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ZW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Partial human sequence of unknown function from a myeblast cell line.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Xu C, Cao Y;
, Chen R, Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         67.6%; Score 220.5; DB 4; Length 417; 70.0%; Pred. No. 1.5e-22; ive 5; Mismatches 8; Indels 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tang YT, Liu C, Drmanac RT, Asundi V, Zhou P, Xv
Ma Y, Zhao QA, Wang D, Wang J, Zhang J, Ren F,
Xue AJ, Yang Y, Wejhrman T, Goodrich R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 20; Page 229-230; 6221pp; English.
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                                                                                             27-APR-2000; 2000US-00560875.
20-UTW-2000; 2000US-00580075.
19-UTL-2000; 2000US-0052325.
01-SEP-2000; 2000US-00654936.
15-SEP-2000; 2000US-0065551.
20-OCT-2000; 2000US-0063325.
30-NOV-2000; 2000US-00728422.
05-FEB-2001; 2001WO-US004098
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Best Local Similarity 70.0%
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The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention is useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving overexpression of the enzyme.
                                       New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell
                                                                                                                                                                                   insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL10511), expressed DNA sequences (ABL101840-ABL16175) and the encoded proteins (ABB57737-ABB72072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart.
                                                                                                Disclosure; SEQ ID NO 18162; 21pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-terminal sequence of expressed human O-fucosyltransferase.
                                                                                                                                                                                                                                                                                                                  Score 177; DB 4; Length 402;
Pred. No. 2.5e-16;
3; Mismatches 9; Indels
                                                                                                                                                                                                                                                                                                                                                                            7 DLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQ 51
                                                                                                                                                                                                                                                                                                                                                                                            54.3%; Sco...
73.3%; Pred. No. 2...
... 3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 1; Page 39; 90pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "unknown"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "unknown"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAW80575 standard; protein; 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97US-00792498.
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                                                                                                                                                                                                                                                                                                                                                  33; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Spellman MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1998-437477/37.
WPI; 2001-656860/75.
N-PSDB; ABL07893.
                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference 23
                                                                                                                                                                                                                                                                                          Sequence 402 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Misc-difference
                                                                        interactions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31-JAN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO9833924-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26-NOV-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW80575;
                                                                                                                                                                                                                                                                                                                       Query Match
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                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAW8057
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                                                                                                                                                                                                                                                                                                                 This represents a published partial human sequence of unknown function from a myeblast cell line. The invention provides a human heart Ofucosyltransferase enzyme that can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated Ofucose residue. Inhibitors of Ofucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of Ofucosyltransferase, to promote polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for Ofucosyltransferase
                                                                                                                                                                                                                              Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving overexpression of the enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Drosophila; developmental biology; cell signalling; insecticide;
pharmaceutical.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 343;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 NQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Drosophila melanogaster polypeptide SEQ ID NO 18162.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 62.6%; Score 204; DB 2; Le
Best Local Similarity 94.9%; Pred. No. 2.8e-20;
Matches 37; Conservative 0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23 NOADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Myers EW;
                                                                                                                                                                                                                                                                                            Example 1; Page 62-68; 90pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABB63790 standard; protein; 402 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Li PWD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23-MAR-2000; 2000US-0191637P.
11-JUL-2000; 2000US-00614150
                                                            97WO-US023401.
                                                                                      97US-00792498.
97US-00978741.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
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                                                                                                                                 GETH ) GENENTECH INC
                                                                                                                                                              Wang Y, Spellman MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Adams M,
                                                                                                                                                                                           WPI; 1998-437477/37.
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                                                                                                                                                                                                          N-PSDB; AAV65634.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 343 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200171042-A2
      WO9833924-A1
                                                            17-DEC-1997;
                                                                                         31-JAN-1997;
                                                                                                      26-NOV-1997;
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                                 06-AUG-1998
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         This represents the N-terminal amino acid sequence of the human heart O-fucosyltransferase expressed by a plasmid insertion. The human O-fucosyltransferase can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferase, to promote survival of sensory (tetinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-fucosyltransferases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human, signal peptide-containing protein, HSPP; diagnosis; cancer; inflammation; cardiovascular disease; anticancer; anti-inflammatory; antimicrobial; nootropic; neuroprotective; cardiovascular; hepatotropic; antiasthmatic; gene therapy; cell proliferation; neurological disorder; reproductive disorder; developmental disorder; arteriosclerosis; cirrhosis psoriasis, acquired immune deficiency syndrome; anaemia; asthma; Crohn's disease; infection; Alzheimer's disease; schizophrenia; Parkinson's disease; Huntington's diseases; ovulatory defect;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New human signal peptide-containing proteins useful in treatment, prevention and diagnosis of e.g. cancer, inflammation and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lal P, Tang YT, Gorgone GA, Corley NC, Guegler KJ, Baughn MR;
Akerblom IE, Au-Young J, Yue H, Patterson C, Reddy R, Hillman JL;
                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAZ98109 to AAZ98242 encode AAY87224 to AAY87357 which represent
                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human signal peptide containing protein HSPP-102 SEQ ID NO:102.
                                                                                                                                                                                                                                                       24.8%; Score 81; DB 2; Length 28; 94.4%; Pred. No. 0.00057; tive 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; Page 225-226; 327pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                               AAY87325 standard; protein; 150 AA.
                                                                                                                                                                                                                                                                                                                          3 AGSWDLAGYLLYXPXMGR 20
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98US-0094983P.
98US-0102686P.
98US-0112129P.
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                                                                                                                                                                                                                                                                                                                                                11 AGSWDPAGYLLYXPXMGR
                                                                                                                                                                                                                                       11-MAY-2000 (first entry)
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N-PSDB; AAZ98210.
                                                                                                                                                                                         Eucosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        muscular dystrophy
                                                                                                                                                                                                                         Sequence 28 AA;
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01-OCT-1998;
11-DEC-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-JUN-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY87325;
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the contraction of the containing proteins HSPP-1 to HSPP-134. HSPPs have anticancer, anticancer, anticancer, anticancer, anticancer, anticancer, anticancer, anticancer, anticancer, anticancer, anticancer, anticancer, anticancer, anticancer, anticancer, and can be used in gene therapy. HspPs can be used to treat or prevent disorders associated with decreased activity or function of HSPP. Antagonists of associated with decreased activity or function of HSPP. Such diseases include cell profiferation (including cancer), inflammation, cardiovascular, neurological, reproductive or developmental disorders, (e.g. arteriosclerosis, cirrhosis, pooriasis, adquired immune deficiency syndrome, annewis, cirches, pooriasis, adquired immune deficiency syndrome, annewis, cirches, pooriasis, and cropial or other infections, congestive or ischaemic heart disease, Alzheiner's Parkinson's or Huntingcon's modelic acids can be used for the recombinant production of HSPP, for detecting HSPP in standard hybridisation and maplification assays (for disposis and monitoring), in gene therapy, as antisense, triplex-forming variations, and for chromosomal mapping HSPP are also used to raise (specific antibodies (hb) and to screen for adouts and antagonists or gonetic agent, as even used to dispose, or monitor, HSPP concepted diseases (in usual immunoassays), as therapeutic antagonists, in general immunoassays), as therapeutic antagonists, in competitive drug screens, and for purification of HSPP from natural
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Xu HH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New antisense nucleic acids, useful for identifying proteins or scre
for homologous nucleic acids required for cellular proliferation to
isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 76; DB 3; Length 150;
Pred. No. 0.022;
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Forsyth RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein encoded by Prokaryotic essential gene #19393.
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Yamamoto R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1; Mismatches
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Carr GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 AGSWDLAGYLLYXPXMGR 20
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06-SEP-2001, 2001US-00948933.
25-0CT-2001, 2001US-0342923P.
08-FEB-2002; 2002US-00072851.
06-MAR-2002, 2002US-0362699P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23.3%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 77.8
Matches 14; Conservative
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Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2003-029926/02.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-PSDB; ACA37736.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 150 AA;
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Wall D,
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                 The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the 6213 antisense sequences given in the specification where expression of the mucleic acid inhibits proliferation of a cell. Also included are: (1) a vector comprising a promoter operably linked to the nucleic acid concluded as inhibited by the antisense concluding a polypeptide whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular proliferation or the activity of a gene in an operon required for proliferation or that has an activity against a biological pathway required for proliferation, or that that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway in which a proliferation required gene product the test compound that inhibits spond for a gene on which the test compound that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a compund activity; (11) a culture comprising strains in which the extent or organism acts; (9) manufacturing an antibiotic; (10) profiling a compund activity; (11) a culture comprising strains in which the extent or organism acts; (13) identifying the target of a compound that inhibits proliferation of an organism. The antisense nucleic acids are useful for totilular proliferation of an organism. The antisense mucleic acids are useful for form proliferation in cells other than S. aureus, S. typhimurium, cform the prokaryotic essential genes candidate molecules for proliferation in cells other than S. aureus, S. typhimurium, cform part of the printed specification, but was obtained the form part of the printed specification, but was obtained the form part of the printed specification, but sequence data for this concention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Antibacterial; Gene therapy; Vaccine; Streptococcus pneumoniae.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 6; Length 198; 25;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21.3%; Score 69.5; DI
50.0%; Pred. No. 0.25;
iive 2; Mismatches
 Claim 25; SEQ ID NO 61790; 1766pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zeng Q,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADK48560 standard; protein; 737 AA
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98US-0085131P.
98US-00107433.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
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nes 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Streptococcus pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Doucette-Stamm L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 198 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (GENO-) GENOME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-MAY-2004
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Matches
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                                                                                                                                                                                                                                                                                    The invention relates to isolated Streptococcus pneumoniae nucleic acids and polypeptides. The nucleic acids and proteins are useful for diagnosing, preventing and treating pathological conditions resulting from bacterial infection, such as S. pneumoniae infection. These may also be used for drug screening procedures. The present sequence represents a Streptococcus pneumoniae polypeptide of the invention. Note: The sequence data for this patent did not appear in the printed specification but was obtained in electronic format directly from USPTO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bacterial meningitis; pneumonia; sepsis; otitis media; ear infection; antinflammatory; antibacterial; immunostimulant; auditory; respiratory; gene therapy; vaccine.
                                                                            New nucleic acid molecules and polypeptides useful for diagnosing, preventing and treating pathological conditions resulting from bacterial infection, e.g. Streptococcus pneumoniae infection, and in drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to a protein comprising or having at least 50% identity to any of the 2469 amino acid sequences, identified in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 737;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S. pneumoniae type 4 strain protein from coding region #849.
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Pred. No. 3.2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5; Mismatches
                                                                                                                                                                                                                                      Disclosure; SEQ ID NO 5075; 301pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Streptococcus pneumoniae; type 4 strain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; SEQ ID NO 1698; 56pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Masignani V, Tettelin H, Fraser C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABU01274 standard; protein; 741 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 seqdata.uspto.gov/sequence.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-MAR-2002; 2002WO-IB002163.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20.4%;
37.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16; Conservative
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(GENO-) INST GENOMIC RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (revised)
WPI; 2004-212399/20.
N-PSDB; ADK45899.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 737 AA;
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11-FEB-2003
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                                                                                                                                                                                     screening
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expressed from 2469 of 2489 identified DNA coding regions from the expressed from 2469 of 2489 identified DNA coding regions from the Streptococcus pneumoniae type 4 strain genomic sequence appearing as a treating a patient by administering the protein, DNA or antibody (in a composition), a kit comprising first and second primers, which are the nucleic acid cited above or fragments between nuclectides 8-100 of a sequence contained within a Streptococcus nucleic acid sequence, where the first primer is substantially complementary to the target sequence to the target sequence, and where the parts of the primers having substantially complementary to the target sequence on the target sequence and the second primer is substantially complementary to the complement of the target sequence to be amplified, assay comprising contacting a test compound with the protein, and determining whether the test compound binds to the protein and a Streptococcus pneumoniae bacterium, where one or more genes conding the proteins has been rendered inactive. The proteins, nucleic acid molecules, antibody and compositions are useful as medicaments for treating or preventing a disease or infection due to streptococcus card molecules, antibody and compositions are useful as medicaments for treating or preventing a disease or infection due to streptococcus card antibiotics. The methods are useful for identifying immunodominant proteins. The present sequence is one of the 4469 proteins expressed by the identified coding regions from the genomic sequence. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at the the proteins of the printed specification, but was obtained in electronic format directly from WIPO at the dentified or steplence is one of the 21-2003 to the standardise OS field)
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20.4%; Score 66.5; DB 6; Length 741; 37.2%; Pred. No. 3.2; ative 5; Mismatches 19; Indels 3 114 LIGVALYIPTAFLFSNIGTYFIGSIL---ILVGSLLVSPWSVY 153 8 LAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEY 50 Query Match
Best Local Similarity 37.2
Matches 16; Conservative Seguence 741 AA;

1;

3; Gaps

ADR94975 standard; protein; 763 AA. 16-DEC-2004 (first entry) ADR94975; 

Meningitis; bacteraemia; pneumonia; otitis media; vaccine; bacterial infection. Novel S. pneumoniae protein sequence, SEQ ID 3610.

Streptococcus pneumoniae.

US6800744-B1.

98US-00107433. 97US-0051553P. 98US-0085131P. 30-JUN-1998; 02-JUL-1997; 12-MAY-1998; (GENO-) GENOME THERAPEUTICS CORP.

Doucette-Stamm LA, Bush D;

WPI; 2004-697205/68. N-PSDB; ADR92372.

New isolated nucleic acid encoding a Streptococcus pneumoniae polypeptide, useful for diagnosing, preventing and/or treating

The invention relates to an isolated nucleic acid comprising a sequence encoding a Streptococcus pneumoniae ADR91366polypeptide, or its fragments, with any of 9 fully defined sequences (appearing as ADR94308, ADR94609, ADR94600, ADR94609, ADR94609, ADR956253, ADR95642, ADR95662, ADR996079) or any of the fully defined sequences appearing as ADR941705, ADR91806, ADR91806, ADR91807, ADR92234, ADR93039, ADR92360, ADR91806, ADR91807, ADR921807, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR92306, ADR92306, ADR931807, ADR921807, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079, ADR923079 ۲; Gaps 3; pathological conditions resulting from the bacterial infection. Query Match
20.4%; Score 66.5; DB 8; Length 763;
Best Local Similarity 37.2%; Pred. No. 3.4;
Matches 16; Conservative 5; Mismatches 19; Indels 3 166 LIGVALYIPTAFLFSNIGTYFIGSIL---ILVGSLLVSFWSVY 205 8 LAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEY 50 Disclosure, SEQ ID NO 3610; 151pp; English. Sequence 763 AA; ð

Search completed: October 25, 2005, 15:30:40 Job time : 41.8296 secs

Sequence 10 Sequence 10 Sequence 5

Sequence

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Matches 61; Conserv
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Sequence 2, Ap
Sequence 6, Ap
Sequence 17, Ap
Sequence 11, A
Sequence 13, A
Sequence 8, Ap
Sequence 12, A
Sequence 12, A
Sequence 14, A
Sequence 14, A
Sequence 14, A
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Sequence 9,
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1 RLAGSWDLAGYLLYXPXMGR......LAVPPWIEYQHHKPPFTNLH
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'cgn2 6/ptodata1/jaa/5A COMB.pep:*
'cgn2 6/ptodata1/jaa/5B COMB.pep:*
'cgn2 6/ptodata1/jaa/6A_COMB.pep:*
'cgn2 6/ptodata1/jaa/6A_COMB.pep:*
'cgn2 6/ptodata1/jaa/8E_COMB.pep:*
'cgn2 6/ptodata1/jaa/PCTUS COMB.pep:*
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           GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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US-09-370-767-45921
US-09-333-729A-12
US-08-978-741.14
US-09-333-729A-14
US-09-583-110-5075
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US-08-978-741-17
US-09-333-729A-13
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US-07-914-281-6
                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
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                                                                                                                                                                                                 513545 seqs, 74649064 residues
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Maximum Match 100%
Listing first 45 summaries
                                                      - protein search, using sw model
                                                                                                                                                                BLOSUM62
Gapop 10.0 , Gapext 0.5
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US-09-042-531-6
US-09-254-077A-11
US-09-129-00899-12
US-09-18-111-5
US-09-18-111-5
US-09-18-111-5
US-09-18-111-5
US-09-18-17-66
US-09-254-077A-10
US-09-258-102-5
US-09-568-480-5
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US-09-568-480-5
US-09-568-480-5
US-09-568-480-5
US-09-568-472-5
US-09-568-477-7
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: Winbartin (Generation)

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE WINDATA IN (Generatedh)

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741

FILING DATE: 26-No. 6100076-1997

CLASSIFICATION: 435

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/792498

FILING DATE: 33
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044

REGISTRATION NUMBER: 39,044

REGISTRATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPAX: 650/952-9881

INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 3, Application US/08978741
Patent No. 6100076
GENERAL INFORMATION:
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES:
CORRESPONDENCE 3.17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genencech, Inc.
STREET: 1 DNA WAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 61 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61; Conservative
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3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
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                                                                                                                                                                                                                                                                                                                           3 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                                                                                                                                                    0; Gaps
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                                                                                                                                                                                                       Length 61;
                                                                                                                                                                                                  Query Match 90.5%; Score 295; DB 3; Length 61 Best Local Similarity 91.5%; Pred. No. 2.3e-32; Matches 54; Conservative 0; Mismatches 5; Indels
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ZIP: 94080

COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: 1BM PC compatible
COMPUTER: IBM PC COMPATIBLE
COPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Geneticch)
CURRENT APPLICATION DATA:
RPLICATION NUMBER: 05/09/79197
FILING DATE: 26-No. 6100076-1997
CLASSIFICATION 1435
PROC APPLICATION DATA:
APPLICATION NUMBER: 08/792498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Wang Yang
APPLICANT: Wang Yang
APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-Fucosyltransferase
FILE REFERENCE: P1041P1D1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT FILING DATE: 1999-06-15
PRIOR PLICATION NUMBER: US 08/798,741
PRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
LENGTH: 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Yang Wang, Michael W. Spellman TITLE OF INVEXTION: O-Fucosyltransferase NUMBER OF SEQUENCES: 17 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; Sequence 4, Application US/09333729A; Patent No. 6270987
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US-08-978-741-2
US-08-978-741-2
Sequence 2, Application US/08978741
; Patent No. 6100076
; GENERAL INFORMATION:
, GENERAL INFORMATION:
             TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 9: SEQUENCE CHARACTERISTICS: LENGTH: 61 amino acids TYPE: Amino Acid TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Genentech, Inc. STREET: 1 DNA Way CITY: South San Francisco STATE: California COUNTRY: USA
650/225-1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
ORGANISM: Homo Sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION
  TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 98.2%; Score 320; DB 3; Length 61; Best Local Similarity 100.0%; Pred. No. 1e-35; Matches 61; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: 82A.

COMPUTER: READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION NATA:
APPLICATION NUMBER: 05/09/99,741
FILING DATE: 26-No. 6100076-1997
CLASSIPRICATION 1435
PRICATION NUMBER: 08/792498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 9, Application US/08978741
; Patent No. 6100076
; GENERAL INFORMATION:
    TILLE OF INVENTION: O-Pucosyltransferase
    NUMBER OF SEQUENCES: 17
    CORRESPONDENCE ADDRESS:
    ADDRESSEE: Genentech, Inc.
    STREET: 1 DNA Way
    STREET: California
    STATE: California
                                                                                                              Sequence 5, Application US/0933729A;
Sequence 5, Application US/0933729A;
Partent No. 6270987;
APPLICANT: Wangivang
TITLE OF INVENTION: O-Fucosyltransferase;
TITLE OF INVENTION: O-Fucosyltransferase;
CURRENT APPLICATION NUMBER: US/09/333,729A;
CURRENT FILING DATE: 1999-06-15;
PRIOR PLING DATE: 1999-06-15;
NUMBER OF EXQ. ID NOS: 21
LENTH: 61
LENTH: 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
NAME/KEY: unsure
LOCATION: 15, 17, 38
CTHER INFORMATION: unknown amino acid
US-09-333-729A-5
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ATTORNEY/AGENT INFORMATION:
NAME: SVODOGA, Craig G,
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: PIC
TELECOMMUNICATION INFORMATION:
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ORGANISM: Cricetulus Grieseus
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61 H 61
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US-08-978-741-9
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RESULT 8
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Pred. No. 1.8e-31;
0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                      Length 365;
                                                                                                                                                                                                                                                                                                   Score 295; DB 3; Length 36
Pred. No. 1.8e-31;
0; Mismatches 5; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Wang, Yang
APPLICANT: Wang, Yang
APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-Fucosyltransferase
FILE REFRENCE: Pl041PlD1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT APPLICATION NUMBER: US/08/798,741
PRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
SEQ ID NO 3
SEQ ID NO 3
SEQ ID NO 3
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Patent No. 6100076
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
                                                                       P1041P1
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ATTOREY AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION UNDERE: 39,04
REFERENCE/DOCKET UNDERE: P1041
RELECOMMUNICATION INFORMATION:
TELEPHONE: 650/252-1489
TELEPHONE: 650/252-1489
TELEPHONE: 650/252-1489
TELEPHONE: 650/252-1489
TELEPHONE: 650/252-1489
TELEPHONE: 650/252-1489
TELEPHONE: 650/252-1489
TELEPHONE: 650/252-1489
TELEPHONE: 650/252-1489
TELEPHONE: 650/252-1489
TYPE: Amino Acid
TYPE: Amino Acid
TYPE: Amino Acid
TOPOLOGY: Linear
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1 DNA Way
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STATE: California
COUNTRY: USA
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Best Local Similarity 91.5%;
Matches 54; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC
OPERATING SYSTEM:
SOFTWARE: WinPati
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Best Local Similarity
Matches 54; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3 AGSWDLAGYLLYXPXMGREGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
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Pred. No. 2e-31;
0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match

90.5%; Score 295; DB 3; Length 397;
Best Local Similarity 91.5%; Pred. No. 2e-31;
Matches 54; Conservative 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              , OTHER INFORMATION: Plasmid insert encoded protein US-09-333-729A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 17, Application US/08978741
; Patent No. 6100076
; GENERAL INFORMATION:
    APPLICANT: Yang Wang, Michael W. Spellman; TITLE OF INVENTION: 0-Fucosyltransferase; NUMBER OF SEQUENCES: 17
    CORRESPONDENCE ADDRESS:
    ADDRESSEE: Genentech, Inc.
    STREET: 1 DNA Way
    CITY: South San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 7, Application US/0933729A
Patent No. 6270987.
GENERAL INFORMATION:
APPLICANT: Wang, Yang
APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-Fucosyltransferase
FILE REFERENCE: P1041P1D1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT FILING DATE: 1999-06-15
PRIOR APPLICATION NUMBER: US 08/798,741
PRIOR APPLICATION NUMBER: US 08/798,741
PRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
26-No. 610076-1997
Ni. 435
                                     FILING DATE: 26-No. 6100076-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/792498
FILING DATE: 31
ATTORNEY/AGENT INFORMATION:
NAME: SYODOGA, Craig G.
REGISTRATION NUMBER: 39,044
REGISTRATION INFORMER: 191041P1
TELECOMMUNICATION INRORMATION:
TELEPHONE: 650/255-1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 90.5%;
Best Local Similarity 91.5%;
Matches 54; Conservative
                                                                                                                                                                                                                                                                                                         TELEPAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 397 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 9
US-08-978-741-17
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us-09-774-954-3.rai

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; TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster; CURRENT APPLICATION NUMBER: US/09/270,767; CURRENT APPLICATION NUMBER: US/09/270,767; CURRENT FILING DATE: 1999-03-17; NUMBER OF SEQ ID NOS: 62517; SOFTWARE: PATENTIN Ver. 2.0; SEQ ID NO 45921 LENGTH: 399; TYPE: RRT TREE: PRT CREAMING CORGANISM: Drosophila melanogaster US-09-270-767-45921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25 DPNGYLTYCPCMGRFGNQADHFLGSLAFAKALNRTLILPPWVEYR 69
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 54.3%; Score 177; DB 4; Length 39 Best Local Similarity 73.3%; Pred. No. 1.4e-15; Matches 33; Conservative 3; Mismatches 9; Indels
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1S-08-978-741-8

SEQUENCE B, Application US/08978741

Patent No. 6100076

GENERAL INFORMATION:

TITLE OF INVENTION:

OORBERSE:

ADDRESSEE:

ADDRESSEE:

ADDRESSEE:

CONTOURRY:

SOLD SAN Francisco

STATE:

CONTUTRY:

CONTUTRY:

SOLD SAN PRANCISCO

STATE:

COMPUTER READABLE FORM:

MEDIUM TYPE:

MEDIUM TYPE:

SOFTWARE:

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US-09-333-729A-12
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                                                                          COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER. IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTMARE: Winheatin (Genencech) CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/978,741 FILING DATE: 36-No. 6100076-1997 FILING DATE: 3.6-No. 6100076-1997 FILING DATE: 31 FILING DATE: 3.9 APPLICATION NUMBER: 08/792498 FILING DATE: 3.1 FILING DATE: 3.1 FILING DATE: 3.1 FILING DATE: 3.1 FILING DATE: 3.1 FILING DATE: 3.1 FILING DATE: 3.1 FILING DATE: 3.2 FORMALION: NAME: SYODOGA, CCRAIG G. REGISTRATION NUMBER: P1041P1 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/55-9881 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/25-1489 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-66 TELEPHONE: 650/55-6
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Sequence 13, Application US/0933729A
Sequence 13, Application US/0933729A
Sequence 10, 6270987
Seneral INFORMATION:
APPLICANT: Wangivang
TITLE OF INVENTION: O-PROCOVILtransferase
FILE REPERENCE: P1041P1D1 Substitute
CURRENT FILING DATE: 1990-06-15
PRIOR APPLICATION NUMBER: US 08/798,741
PRIOR PILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
SEGO ID NO 13
LENGTH: 343
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; Sequence 45921, Application US/09270767; Patent No. 6703491
; GENERAL INFORMATION:
; APPLICANT: Homburger et al.
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US-09-333-729A-13
                       California
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Winheatin (Genentech) CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/978,741

FILING DATE: 26-No. 610076-1997
CLASSIFICATION: 435
PRION APPLICATION: 435
PRION APPLICATION DATA: APPLICATION UNMBER: 08/792498
FILING APPLICATION NUMBER: 08/792498
FILING APPLICATION INFORMATION: NAME: Svoboda, Craig G. REGISTRATION NUMBER: 91,041P1
TELECOMMUNICATION INFORMATION: TELECOMMUNICATION INFORMATION: TELECOMMUNICATION INFORMATION: TELECOMMUNICATION INFORMATION: TELECOMMUNICATION INFORMATION: TELECOMMUNICATION OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAMENT OF SEQUENCE CHARACTERISTICS: TENTAM
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Sequence 14, Application US/08978741

Sequence 14, Application US/08978741

Patent No. 6100006;

PAPLICANT: Yang Wang, Michael W. Spellman

TITLE OF INVENTION: O-Fucosyltransferase

NUMBER OF SEQUENCES: 17

CORRESPONDENCE ADDRESS:
ADDRESSEE: Genetech, Inc.
STREET: 1 DNA Way

CITY: South San Francisco

STATE: California

COUNTRY: USA
                                                                                                                                 APPLICANT: Wang, Yang
APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-Fucosyltransferase
TITLE REPERENCE: Pl041P1D1-Subsetitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT PILIAG DATE: 1999-06-15
PRIOR APPLICATION NUMBER: US 08/798,741
PRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
SEQ ID NO 12
LENGTH: 474
TYPE: PRT
CACHOLHADALISM: CACHOLHADALISE Elegans
Sequence 12, Application US/09333729A
Patent No. 6270987
GENERAL INFORMATION:
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ORGANISM: Artificial Sequence
PEATURE:
OTHER INFORMATION: Plasmid insert encoded protein.
NAME/KEY: unsure
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Pred. No. 0.00048;
US-09-33-729A-14

Sequence 14, Application US/09333729A

Patent No. 62709A:
GENERAL INFORMATION:
APPLICANT: Wang, Yang
TILE OF INVENTION: O-Fucosyltransferase
FILE REFERENCE: P1041PLD1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A

CURRENT APPLICATION NUMBER: US 08/798,741

PRIOR APPLICATION NUMBER: US 08/798,741

PRIOR FILING DATE: 1997-11-26

NUMBER OF SEQ ID NOS: 21

LEMANTH. . L
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; OTHER INFORMATION: unknown amino acid
US-09-333-729A-14
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Matches 17; Conservative
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October 25, 2005, 15:22:39; Search time 35.8234 Seconds (without alignments) 710.936 Million cell updates/sec
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1 RLAGSWDLAGYLLYXPXMGR.....LAVPPWIEYQHHKPPFTNLH
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1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
4: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
5: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
6: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*
7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*
8: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*
9: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
10: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*
11: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
12: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
13: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
14: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
15: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
16: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
17: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
18: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
19: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
19: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
10: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
10: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
11: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
12: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
13: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
14: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
15: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
16: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
17: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
18: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1862994 segs, 417510619 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                            OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                             US-09-774-954-3
                                                                                                                                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                                                                                                                                              Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

|    | Description                | Sequence 3, Appli | Sequence 9, Appli | Sequence 2, Appli | Seguence 169, App | Seguence 6, Appli | Sequence 17, Appl | Sequence 18162, A   | Sequence 8, Appli | 14,              | Sequence 102, App  | Sequence 12551, A   |
|----|----------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---------------------|-------------------|------------------|--------------------|---------------------|
|    | QI                         | US-09-774-954-3   | US-09-774-954-9   | US-09-774-954-2   | US-10-301-822-169 | US-09-774-954-6   | US-09-774-954-17  | US-11-097-143-18162 | US-09-774-954-8   | US-09-774-954-14 | US-10-820-474A-102 | US-10-156-761-12551 |
|    | 88                         | 11                | 11                | 11                | 14                | 11                | 11                | 20                  | 11                | 11               | 18                 | 14                  |
|    | Query<br>Match Length DB 1 | 61                | 61                | 365               | 388               | 397               | 343               | 402                 | 474               | 28               | 150                | 601                 |
| de | Query<br>Match             | 98.2              | 90.5              | 90.5              | 90.5              | 90.5              | 62.6              | 54.3                | 35.0              | 24.8             | 23.3               | 22.2                |
|    | Score                      | 320               | 295               | 295               | 295               | 295               | 204               | 177                 | 114               | 81               | 16                 | 72.5                |
|    | Result<br>No.              | 1                 | 7                 | 9                 | 4                 | ស                 | 9                 | 7                   | 60                | 0                | 10                 | 11                  |

| 201329,             | 6119     | 266118,  | a 113919,            | a 1698, Ap         | e 3610, Ap         | 13343, A            | 13598, A | e 96, Appl       | e 73911, A | 2, Appli | 11, Appl | 6, Appli | = 10, Appl | s 198684, | a 235644, | e 8280, Ap           | e 62362, A | e 64747, A | e 273532, | e 219171, | e 11617, A | e 63705, A | 4, Appli | 10, Appl          | 13, Appl | 13, Appl | e 327031,            | e 179849,            | e 10, Appl       | e 18, Appl       | e 10, Appl        | e 5662, Ap         | e 19411, A          |
|---------------------|----------|----------|----------------------|--------------------|--------------------|---------------------|----------|------------------|------------|----------|----------|----------|------------|-----------|-----------|----------------------|------------|------------|-----------|-----------|------------|------------|----------|-------------------|----------|----------|----------------------|----------------------|------------------|------------------|-------------------|--------------------|---------------------|
| Sequence            | Sequence | Sequence | Sequence             | Sequence           | Sequence           | Sequence            | Sequence | Sequence         | Sequence   | Sequence | Sequence | Sequence | Sequence   | Sequence  | Sequence  | Sequence             | Sequence   | Sequence   | Seguence  | Sequence  | Sequence   | Sequence   | Sequence | Sequence          | Sequence | Sequence | Sequence             | Sequenci             | Sequence         | Sequenc          | Sequence 10, Appl | Sequence           | Sequence            |
| US-10-425-115-20132 |          |          | US-10-437-963-113919 | US-10-472-928-1698 | US-10-617-320-3610 | US-09-815-242-13343 |          | 03-09-769-787-96 |            |          |          |          |            |           |           | 5 US-10-369-493-8280 |            |            |           |           |            |            |          | US-09-254-077A-10 |          |          | US-10-425-115-327031 | US-10-424-599-179849 | US-10-664-421-10 | US-10-377-268-18 | 10-941-635-10     | US-10-369-493-5662 | US-10-732-923-19411 |
| Н                   | -        | -        | -                    | -                  | ı ~                | 0                   | 767      | 1                | 7          | σ        | 0        | σ        | Н          | Н         | Н         | ٦                    | -          | Н          | Н         | ٦         | 7          | ٦          | σ        | 365 9             |          |          | 110 1                | 587 1                | 322 1            | 322 1            | 322 1             | 363 1              | 376 1               |
| 21.9                | 21.3     | 21.0     | 20.7                 | 20.4               | 20.4               | 20.4                | 20.4     | 20.4             | 20.4       | 20.4     | 18.9     | 18.9     | 18.9       | 18.7      | 18.7      | 18.6                 | 18.3       | 18.3       | 18.3      | 18.1      | 18.1       | 17.9       | 17.9     | 17.9              | 17.9     | 17.9     | 17.8                 | 17.6                 | 17.5             | 17.5             | 17.5              | 17.5               | 17.5                |
| 71.5                | 69       | 200      | 67.5                 |                    | 14.                | 66.5                | 66.5     | 66.5             | 99         | 66.5     | 61.5     | 61.5     | 61.5       | 61        | 61        | 60.5                 | 59.5       | 59.5       | 59.5      | 59        | 23         | 58.5       | 58.5     | 58.5              | 58.5     | 58.5     | 28                   | 57.5                 | 57               | 57               | 57                | 57                 | 57                  |
| 12                  |          | 1 -      |                      | 91.                | 17                 | 18                  | 19       | 20               | 21         | 22       | 23       | 24       | 25         | 26        | 27        | 28                   | 29         | 30         | 31        | 32        | 33         | 34         | 35       | 36                | 37       | 38       | 39                   | 40                   | 41               | 42               | 43                | 44                 | 45                  |
|                     |          |          |                      |                    |                    |                     |          |                  |            |          |          |          |            |           |           |                      |            |            |           |           |            |            |          |                   |          |          |                      |                      |                  |                  |                   |                    |                     |

## ALIGNMENTS

```
RESULT 1
US-09-774-954-3
US-09-774-954
US-09-774-954
US-09-774-954
US-09-774-954
US-09-774-954
Publication No. US20040241645Al
GENERAL INFORMATION:
HAPPLICATY: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STRATE: California
COUNTYR: USA
COUNTYR: USA
ITLE 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winbatin (Genentech)
CURRENT APPLICATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFICATION NUMBER: US/08/792,498
FILING DATE: 30-Jan-2001
CLASSIFICATION NUMBER: US/08/792,498
FILING DATE: 31-JAN-1197
APPLICATION NUMBER: 08/792,498
REFERENCE/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:
```

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3 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                            1 RLAGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNL 60
                                                                                                                                                                                                                                                                                                                  1 RLAGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 90.5%; Score 295; DB 11; Length 61; Best Local Similarity 91.5%; Pred. No. 9.2e-32; Matches 54; Conservative 0; Mismatches 5; Indels
                                                                                                                                                                                                                          Length 61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READALE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: TBM PC compatible OPERATING SYSTEM: DC-DOS/MS-DOS SOFTWARE: Windatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/774,954
FILING DATE: 30-73an-2001
CLASSIFICATION: cThknown>
PRIOR APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: US/08/978,741
FILING DATE: 31-7AN-1997
ATTORNEY/AGENT INFORMATION:
NAME: SVOBOGA, Craig G
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 195,044
                                                                                                                                                                                                                          Query Match 98.2%; Score 320; DB 11; BBert Local Similarity 100.0%; Pred. No. 4.1e-35; Matches 61; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 9, Application US/09774954

Publication No. US2004021645A1

GENERAL INFORMATION:
TITLE OF INVENTION:
CORRESPONDENCE ADDRESS:
ADDRESSERS Genericech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: Callifornia
  TELEFAX: 6.09/252-9881
; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; TUBE: Amino acids
; TUBE: Amino Acid
; SEQUENCE DESCRIPTION: SEQ ID NO: 3:
US-09-774-954-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: Linear SEQ ID NO: 9: US-09-774-954-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 61 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               650/952-9881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 9: SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                        61 H 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 H 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-774-954-9
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Description of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties of the properties 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLINRTLAVPFWIEYQHKRPFTNLH 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 90.5%; Score 295; DB 11; Length 365; Best Local Similarity 91.5%; Pred. No. 6.3e-31; Matches 54; Conservative 0; Mismatches 5; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: usa

ZIP: 94080

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM PC compactible

COMPUTER: IBM PC compactible

COMPUTER: IBM PC compactible

SOSTWARE: Witherin (Genentech)

CURRAT APPLICATION NUMBER: US/09/774,954

FILING DATE: 30-Jan-2001

CLASSIFICATION NUMBER: US/08/978,741

FILING DATE: 26-NOV-1997

APPLICATION NUMBER: US/08/978,741

FILING DATE: 21-JAN-1997

ATTORNEY/AGENT INFORMATION:

NAME: SVODOGA, CTa10

REGISTRATION NUMBER: 39,044

REFERENCE/DOCKET NUMBER: 91,041PI

TELEDHONE: 650/225-1489
Sequence 2, Application US/09774954
; Publication No. US2004041645A1
; GENERAL INFORMATION:
; TITLE OF INNEMITION:
; TOTALE OF INNEMITION: O-ROCOSTITRANSFERSE
; CORRESPONDENCE ADDRESS:
; ADDRESSE: Genericed, Inc.
STREET: I DNA WAY
; SOUTH SAN FAIRLISCO!
; STREET: California
; COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: Linear
SEQUENCE DESCRIPTION: SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 365 amino acids TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-301-822-169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-774-954-2
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3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61

61

3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH

ð

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APPLICANT: Venter, J. Craig
APPLICANT: et al.
TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLEIC ACID
TITLE OF INVENTION: ARRAYS, POR DETECTING EXPRESSION OF 10,000 OR MORE
TITLE OF INVENTION: DROSOPHILA GENES.
FILE REPERENCE: CLO00728
CURRENT APPLICATION NUMBER: US/11/097,143
CURRENT PILING DATE: 2005-04-04
PRIOR APPLICATION NUMBER: 60/157,832
PRIOR FILING DATE: 1999-10-05
                                   35 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 343;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 94080

COMPUTER READABLE FORM:
MEDIUW TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/774,954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 NQADHFLGSLAFAKLLNRTLAVPPWIEYQHKPPFTNLH 39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 204; DB 11;
Pred. No. 9.5e-19;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23 NOADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH
                                                                                                                                 Sequence 17, Application US/09774954; Sequence 17, Application No. US20040241645A1
GENERAL INFORMATION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Geneticch, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
EILING DATE: 26-NOV-1997
APPLICATION NUMBER: 08/792,498
FILING DATE: 31-AN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P1041P1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; SEQUENCE DESCRIPTION: SEQ ID NO: 17: US-09-774-954-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; Sequence 18162, Application US/11097143; Publication No. US20050208558A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1
                                                                                                                                                                                                                                                                                                                                CITY: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 30-Jan-2001
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 343 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 62.6%;
Best Local Similarity 94.9%;
Matches 37; Conservative (
                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-11-097-143-18162
                                                                                                                        US-09-774-954-17
                                                                                                       RESULT 6
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                                                                                                                                                                                                                                                                                                                              ch 90.5%; Score 295; DB 14; Length 388; 1 Similarity 91.5%; Pred. No. 6.7e-31; 54; Conservative 0; Mismatches 5; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 94080

COMPUTER READABLE FORM:
COMPUTER: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90.5%; Score 295; DB 11;
ilarity 91.5%; Pred. No. 6.9e-31;
Conservative 0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: 08/792,498
FILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
NAME: SVODOGA, CTAIG G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1041P1
          CURRENT FILING DATE: 2002-11-21
PRIOR APPLICATION NUMBER: US 60/339,971
PRIOR FILING DATE: 2001-12-10
PRIOR FILING DATE: 2001-12-10
PRIOR FILING DATE: 2002-03-05
PRIOR FILING DATE: 2002-03-05
PRIOR FILING DATE: 2002-05-20
NUMBER OF SEQ ID NOS: 228
SOFTWARR: FASTESEQ for Windows Version 4.0
SSOTUN 0169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: Linear
SEQUENCE DESCRIPTION: SEQ ID NO: 6:
CURRENT APPLICATION NUMBER: US/10/301,822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: 650/225-1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 397 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 6:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: USA
                                                                                                                                                                                                                                                                         ORGANISM: Homo Sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
nes 54; Conserval
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Best Local Similarity
Matches 54; Conserv
                                                                                                                                                                                                                                                                                               US-10-301-822-169
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Matches
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                                                                   Length 474;
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24.8%; Score 81; DB 11; Length 28;
Best Local Similarity 94.4%; Pred. No. 0.0021;
Matches 17; Conservative 0; Mismatches 1; Indels
                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE PORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER READABLE PORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: 1BM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPetin (Genentech)

CURRENT APPLICATION DATA: US/OB/74,954

FILING DATE: 30-Jan-2001

PRING DATE: 30-Jan-2001

FILING DATE: 26-NOV-1997

APPLICATION NUMBER: US/OB/978,741

FILING DATE: 31-JAN-1997

ATTOREY AGENT ITORORAPION:

NAME: SYODOGA, CTAIG G

REGISTRATION NUMBER: 39,044

REFERENCE/DOCKET NUMBER: 13,0404

REFERENCE/DOCKET NUMBER: 91,041P1

TELECOMUNICATION NUMBER: 39,044

REFERENCE/DOCKET NUMBER: 91,041P1

TELECOMUNICATION INFORMATION:

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Sequence 14, Application US/09774954

Publication No. USZO04041645A1

GENERAL INFORMATION: And Wang, Michael W. Spellman
TITLE OF INVENTION: O-PLOSYLTANSFERSE

CORRESPONDENCE ADDRESS:

CORRESPONDENCE ADDRESS:

STREET: 1 DNA Way

CITY: South San Francisco

STREET: California

COUNTRY: USA
                                                               Query Match 35.0%; Score 114; DB 11; Best Local Similarity 64.7%; Pred. No. 1.6e-06; Matches 22; Conservative 4; Mismatches 8;
                                                                                                                                                                                                                                        19 GRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQH 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: Linear SEQUENCE DESCRIPTION: SEQ ID NO: 14: US-09-774-954-14
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Publication No. US20050155089A1
GENERAL INFORMATION:
APPLICANT: LAL, PREETI
APPLICANT: TANG, Y. TOM
APPLICANT: GORGONE, GINA A.
APPLICANT: CORLEY, NEIL C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 AGSWDLAGYLLYXPXMGR 20
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US-10-820-474A-102
       US-09-774-954-8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7 DLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQ 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28 DPNGYLTYCPCMGRFGNQADHFLGSLAFAKALNRTLILDPPWVEYR 72
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ZIP: 194080

COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARS: Winbatin (Genetech)
CURRAT APPLICATION DATA:
RELIGATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFICATION NUMBER: US/08/774,954
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: US/08/78,741
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: US/08/78,741
FILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 8
US-09-774-954-8
US-09-774-954-8
Sequence 8, Application US/09774954
Publication No. US20040241645A1
GENERAL INFORMATION:
TITLE OF INVENTION: O-FUCOSYLtransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
PRIOR APPLICATION NUMBER: 60/160,191
PRIOR FILING DATE: 1999-10-19
PRIOR FILING DATE: 1999-10-19
PRIOR FILING DATE: 1999-10-28
PRIOR PILING DATE: 1999-11-12
PRIOR APPLICATION NUMBER: 60/164,769
PRIOR FILING DATE: 1999-11-12
PRIOR FILING DATE: 1999-11-12
PRIOR FILING DATE: 1999-11-12
PRIOR FILING DATE: 2000-01-12
PRIOR FILING DATE: 2000-01-12
PRIOR PLILING DATE: 2000-02-4
PRIOR PLILING DATE: 2000-02-3
PRIOR PLILING DATE: 2000-03-3
PRIOR PLILING DATE: 2000-03-3
PRIOR PLILING DATE: 2000-03-3
PRIOR PLILING DATE: 2000-03-3
NUMBER OF SEQ ID NOS: 43008
SEQ ID NO 18162
LENGTH. A02
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REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: Linear
SEQUENCE DESCRIPTION: SEQ ID NO: 8:
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TYPE: Amino Acid
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INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: DROSOPHILA
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APPLICANT: La Rosa, Thomas J.
APPLICANT: La Rosa, Thomas J.
APPLICANT: La Rosa, Thomas J.
APPLICANT: Shou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Cab, Yongwin
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REPERMER: 38-21[33:22] B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT PILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 201329
LENGTH: 189
                                                 60 SWDIKNY-LWAPRLGMYGIQRIHLLGNVMVLAGAGVGGGSLNYA----NTLYVPPKAFFD 114
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CURRENT APPLICATION NUMBER: US/10/282,122A
CURRENT FILING DATE: 2003-02-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 RLAGSWDLAGY--LLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHH 53
                GSLAFAKLXVRTLAVPP--
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; OTHER INFORMATION: Clone ID: MRT4577_115198C.1.pep
US-10-425-115-201329
                                                                                                                                                                                                                                                                                                         Sequence 201329, Application US/10425115 Publication No. US20040214272A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 61790, Application US/10282122A
Publication No. US20040029129A1
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PRIOR APPLICATION NUMBER: 60/191,078
PRIOR FILING DATE: 2000-03-21
PRIOR APPLICATION NUMBER: 60/206,848
PRIOR FILING DATE: 2000-05-23
PRIOR PELING DATE: 2000-05-26
PRIOR PILING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR PILING DATE: 2000-05-26
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APPLICATION NUMBER: 60/230,347
                      5 SWDLAGYLLYXPXMGRFGNOADHFL
                                                                                                                                                                            115 DPQWKDITDWQEELKPY 131
                                                                                                                          47 ---W---IEYQHHKPPF 57
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APPLICANT: Zamudio, Carlos
APPLICANT: Malone, Cheryl
APPLICANT: Haselbeck, Robert
APPLICANT: Chisen, Kari
APPLICANT: Zyskind, Judith
APPLICANT: Wall, Daniel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Carr, Grant
Yamamoto, Robert
Forsyth, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     John
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ORGANISM: Zea mays
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                                                                                                                                                                                                                                                       RESULT 12
US-10-425-115-201329
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 23.3%; Score 76; DB 18; Length 150; Best Local Similarity 77.8%; Pred. No. 0.059; Matches 14; Conservative 1; Mismatches 3; Indels
                                                                                                                                     APPLICANT: RAIDENOW, CARACLES
APPLICANT: HEBDY, ROOPA
APPLICANT: HEBDY, ROOPA
APPLICANT: HILMAN, JENNIFER L.
APPLICANT: HILMAN, JENNIFER L.
TITLE OF INVENTION: SIGNAL PEPTIDE-CONTAINING MOLECULES
FILE REPERENCE: 033386-1568
CURRENT FILING DATE: 2004-04-07
CURRENT FILING DATE: 2001-03-20
PRIOR FILING DATE: 1999-06-25
PRIOR FILING DATE: 1999-06-25
PRIOR FILING DATE: 1998-06-26
PRIOR FILING DATE: 1998-06-26
PRIOR APPLICATION NUMBER: 60/094,983
PRIOR FILING DATE: 1998-06-26
PRIOR FILING DATE: 1998-07-31
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APPLICANT: IXEDA, HARUO
APPLICANT: IXEDA, HARUO
APPLICANT: ISHIKAWA, JUN
APPLICANT: HORIKAWA, HINOSHI
APPLICANT: SHIBA, TADAYOSHI
APPLICANT: SHIBA, TADAYOSHI
APPLICANT: SHIBA, TADAYOSHI
APPLICANT: HATTORI, WSASHIRA
ITILE OP INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-262
CURRENT APPLICATION NUMBER: US/10/156,761
CURRENT PLING DATE: 2002-05-29
PRIOR APPLICATION NUMBER: JP 2001-204089
PRIOR APPLICATION NUMBER: JP 2001-204089
PRIOR PILING DATE: 2001-05-30
PRIOR PILING DATE: 2001-05-30
NUMBER OF SEQ ID NOS: 15109
SEQ ID NO 12551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 12551, Application US/10156761
Publication No. US20030119018A1
GENERAL INFORMATION:
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; ORGANISM: Streptomyces avermitilis
US-10-156-761-12551
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                                               AKERBLÓM, INGRID E.
AU-YOUNG, JANICE
YUE, HENRY
PATTERSON, CHANDRA
GUEGLER, KARL J.
BAUGHN, MARIAH R.
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Best Local Similarity 29.9
Matches 23; Conservative
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18-10-424-599-266118
Sequence 266118, Application US/10424599
Publication No US20040031072A1
GENERAL INFORMATION:
APPLICANT: Ea Rosa Thomas J
APPLICANT: Ea Rosa Thomas J
APPLICANT: Cao Yongwei
TITLE OF INVENTION: SOY Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: 929 Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: 920 Nucleic Acid Molecules Associated With
TITLE OF INVENTION: 920 Nucleic Acid Molecules Associated With
TITLE OF INVENTION: 920 Nucleic Acid Molecules Associated With
TITLE OF INVENTION NUMBER: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 266118
SEQ ID NO 266118
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PRIOR APPLICATION NUMBER: 60/242,578
PRIOR PILLING DATE: 2000-10-23
PRIOR FILLING DATE: 2000-11-27
PRIOR PRILING DATE: 2000-11-27
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR APPLICATION NUMBER: 60/267,931
PRIOR PILLING DATE: 2001-2-22
PRIOR PAPLICATION NUMBER: 60/269,308
PRIOR FILLING DATE: 2001-02-09
PRIOR FILLING DATE: 2001-02-06
PRIOR FILLING DATE: 2001-02-16
NUMBER: OF SEQ ID NOS: 78614
SEQ ID NOS: 78614
SEQ ID NO 61790
LENGTH: 198
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Best Local Similarity 37.2%; Pred. No. 0.61;
Matches 16; Conservative 7; Mismatches 17; Indels 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 198;
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US-10-424-599-266118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
21.3%; Score 69.5; DB 15;
Best Local Similarity 50.0%; Pred. No. 0.59;
Matches 16; Conservative 2; Mismatches 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Glycine max
PERJURE:
NAME/KEY: unsure
LOCATION: (1)..(152)
PERJURE:
PERJURE:
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Publication No. US20040123343A1
GENERAL INFORMATION:
APPLICANT: La Rosa, Thomas J.
APPLICANT: Zovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT; ORGANISM: Mycobacterium avium US-10-282-122A-61790
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US-10-437-963-113919
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APPLICANT: Wu, Wei
APPLICANT: Boukharov, Andrey A.
APPLICANT: Barbazuk, Brad
APPLICANT: Barbazuk, Brad
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
TITE OF INVENTION: Plants and Uses Thereof for Plant Improvement
TITE OF INVENTION: Plants und Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5321)B
CURRENT FILING DATE: 2003-05-14
NUMBER OF SEQ ID NOS: 204966
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Qyyra7 bos taurus
Qyyra23 sus scrofa
Q91zw2 mus musculu
Qec87 mus musculu
Qecy6 bos taurus
Qeev66 bos taurus
Qeev66 bos taurus
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xenopus lae
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                                                   October 25, 2005, 15:21:23; Search time 35.1971 Seconds (without alignments) 887.482 Million cell updates/sec
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(c) 1993 - 2005 Compugen Ltd.
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Gapop 10.0 , Gapext 0.5
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1: uniprot_sprot:*
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Received S., Welley Ji., Naure S. E., Jakosch K., Johnson Jb., Raylor S. F., Hanten A. R., Hanten A. R., Hanten S. E., Jakosch K., Johnson D. R. Raylor S. F., Hanten S. E., Marken A. R., Jakosch K., Johnson D. Raylor B. M., Libyd C., Libyd D. M., Lovell J. D., Marin V. M., Mallor S. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D. M., Malter D
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FSPKEHPVLALPGAPAOFPVLEEHRPLQKYMVWSDEMVKTG
BADTHAHLWYBYVGIHLIGISDWKAACAMIKUGTAGSHFWA
SPOCVGYSRSTAAPLTHYMCLPDLKEIGSDWKAKATG
SYVATDSESYVPELQQLFKGIKOKYVSLKEBVAQVDLYILG
QADHFIGNCVSSFTAFVKRENDLQGRPSSFFGWDRPKLND
EF -> RENHSCVTLLEPR (in isoform 2).
//FIGHVSP 001809.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24 MPAGSWDPAGYLLYCPCWGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 83
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PubMed=12966037; DOI=10.1093/glycob/cwg113;
Martinez-Duncker I., Mollicone R., Candelier J.J., Breton C.,
Martinez-Duncker I., Mollicone R., Candelier J.J., Breton C.,
Oriol R.;
"A new superfamily of protein-0-fucosyltransferases, alpha2-
"A new superfamily of protein-0-fucosyltransferases; phylogeny and
identification of conserved peptide motifs.";
Glycobiology 13:10-5C(2003)
-1- FUNCTION: Catalyzes the reaction that attaches fucose through an
0-glycosidic linkage to a conserved serine or threonine residue in
G-glycomains (By simlarity).
-1- GATALYTIC ASTIVITY: Transfers an alpha-L-fucosyl residue from GDP-
beta-L-fucose to the serine hydroxy group of a protein acceptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                  GDP-fucose protein O-fucosyltransferase
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25-0CT-2004 (Rel. 45, Last sequence update)
25-0CT-2004 (Rel. 45, Last sequence update)
25-0CT-2004 (Rel. 45, Last annotation update)
GDP-fucose protein O-fucosyltransferase 1 precursor (BC 2.4.1.221)
GPP-fucose protein O-fucosyltransferase) (O-PucT-1).
Name=POFUTI, Synonymes-FUTI2;
Pan troglodytes (Chimpanzee).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.
NCBI_TaxID=9598;
                                                                                                         R Genew, HGNC11498B, POCUT1.

R H-Involb; HIX0015724; -.

R H-Involb; HIX0015724; -.

R GO; GO:0003737; C:cytoplasm; ISS.

R GO; GO:0003737; C:cytoplasm; ISS.

R GO; GO:0004592; F:peptide-O-fucosyltransferase activity; TAS.

R GO; GO:000790; P:embryonic development; NAS.

R GO; GO:0007266; P:O-Glycan processing; TAS.

R GO; GO:000566; P:O-Glycan processing; TAS.

R GO; GO:0005649; P:regulation of transcription; NAS.

R GO; GO:000549; P:regulation of transcription; NAS.

R GO; GO:000549; P:regulation of translation; NAS.

R GO; GO:0005645; P:regulation of translation; NAS.

R GO; GO:0005415; P:regulation of Processing; TAS.

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N-linked (GlcNAc. . .) (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.0%; Pred. No. 4.5e-36;
Matches 61; Conservative 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE 388 AA; 43955 MW; 3FACCCA434D02415 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT; 388 AA.
                   EMBL, AF375884, AAL09576.1; -. EMBL, BO8002, BAA11497.2; -. EMBL, AL121897, CAC16424.1; -. EMBL, BC000582, AAH00582.1; -.
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Q6EV69;
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1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 60
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                                                                                                                                                                                                                                                                                                Loriol C., Germot A., Dupuy F., Maftah A.; Submitted (UUL-2003) to the EMBL/GenBank/DDBJ databases.

EMBL, A7344580; AAQ02332.1; -.

GO; GO:0016757; Fitransferase activity, transferring glycosyl. . .; IEA.

Glycosyltransferase; Transferase.

SEQUENCE 391 AA; 44307 MW; 96762ABB1A2027AD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Martinez-Dunker II., Mollicone R., Candelier J.J., Breton C., Oriol R.; Martinez-Dunker II., Mollicone R., Candelier J.J., Breton C., Oriol R.; "A new superfamily of protein-0-fucosyltransferases, alpha2-fucosyltransferases, and alpha6-fucosyltransferases: phylogeny and identification of conserved peptide motifs."; Glycobiology 13:1c-5c(2003). Glycobiology 13:1c-5c(2003). Glycobiology Glycobyltransferase activity, transferring glycosyl. .; IEP Glycosyltransferase; Transferase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27 LPVGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLINRTLAVPPWIEYQHHKPPFTNV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sus scrofa (Pig).
Sukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae, Sus.
NCBI_TaxID=9823;
                                                                                                                                                       Bos taurus (Bovine).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovldae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ch 96.6%; Score 341; DB 2; Length 378; I Similarity 96.7%; Pred. No. 1.5e-34; 59; Conservative 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ch 97.2%; Score 343; DB 2; Length 391; I Similarity 95.1%; Pred. No. 8.4e-35; 58; Conservative 2; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               378 AA; 42842 MW; 1870DEB0C50713F1 CRC64;
01-OCT-2003 (TrEMBLrel. 25, Created)
01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Protein O-fucosyltransferase la.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-OCT-2003 (TrEMBLrel. 25, Created)
01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
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Name=POFUT1;
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                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                       NCBI_TaxID=9913;
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                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 83
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bos táurus (Bovine).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                         EMBL; AJ781500; CAH03712.1; -.
Fucose metabolism; Glycoprotein; Glycosyltransferase; Manganese;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Loriol C., Germot A., Dupuy F., Maftah A.;
Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
EMBL, AY34581; AA02233.1; --
EMBL, AY34581; AA02233.1; --
EMBL, AY34581; AA02233.1; --
EMBL, AY34581; AA02233.1; --
EMBL, AY34581; Paransferase activity, transferring glycosyl.
Glycosyltransferase; Transferase.
SEQUENCE 351 AA; 39576 MW; BF830F61A7296F42 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                 62 62 N-linked (GlcNAc. .) (Potential)
160 160 N-linked (GlcNAc. .) (Potential)
388 AA, 43955 MW, 3FACCCA434D02415 CRC64;
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                                  -i- PATHWAY: Glycosylation.
-i- SIMILARITY: Belongs to the glycosyltransferase 68 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 353; DB 1; Length 388;
Pred. No. 4.5e-36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97.2%; Score 343; DB 2; Length 351; 95.1%; Pred. No. 7.5e-35; tive 2; Mismatches 1; Indels
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Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    351 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
           COFACTOR: Manganese (By similarity)
                                                                                                                                                                                                                                                                                                                                          Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-0CT-2003 (TrEMBLrel. 25, Created)
01-0CT-2003 (TrEMBLrel. 25, Last seq
01-MAR-2004 (TrEMBLrel. 26, Last ann
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Best Local Similarity 100.0%;
Matches 61; Conservative 0,
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SEQUENCE FROM N.A.
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CARBOHYD CARBOHYD SEQUENCE

CHAIN

Name=pofut1;

**Q7YRE6**; Q7YRE6

RESULT 3

Bovinae; Bos

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Gaps

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9 98 ö

0; Gaps

80 H 80

87 H 87

RESULT Q7YRE7

61 H 61

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RC STRAINE-FROM N.A.

RATA STREAM ST. TISSUE-Mammary gland;

RATA STREAM ST. TISSUE-Mammary gland;

RATA STREAM ST. TISSUE-Mammary gland;

RA Attausher R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Attausher R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Attausher R.D., Collins F.S., Wagner L., Shand J., Hsieh F.,

Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Attausher R.D., Collins F., Barner A.A., Rubin G.M., Hong L.,

RA Stapleton M.J., Gates M.B., Bonaldo M.F., Casavant T.L., Scheetz T.B.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Schand S., Wazny D.M., Gacergren B.J., Lu X., Gibbs R.A.,

RA Villaton D.K., Muzny D.M., Gacergren B.J., Lu X., Gibbs R.A.,

A Villaton D.K., Muzny D.M., Gacergren B.J., Lu X., Gibbs R.A.,

RA Heiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Heiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.,

Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,

Romeration and initial analysis of more than 15,000 full-length human and O-glycosidic linkage to a conserved serine or threonine residue in CG Gongor CC T. CATALYTIC ACTIVITY: Transfers an alpha-L-fucose through an O-glycosidic linkage to a conserved serine or threonine residue in CG C.I. CATALYTIC ACTIVITY: Transfers an alpha-L-fucose to the serine hydroxy group of a protein acceptor.

C.I. CATALYTIC ACTIVITY: Transfers an alpha-L-fucosyl residue from CC C.I. COPACTOR: Mangarnes (By similarity).

C.I. CATALYTIC School College of the glycosyltransferse 68 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-ROOT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
STAIN-12-20/Svoj. TRSUBE-Liver;
STAIN-12-20/Svoj. TRSUBE-Liver;
MEDIINE-2152965; PubMed=11524412; DOI=10.1074/jbc.MI07849200;
Wang Y., Shao L., Shi S., Harris R.J., Spellman M.W., Stanley P.,
Haltiwanger R.S.,
"Modification of epidermal growth factor-like repeats with O-fucose:
modiecular cloning and expression of a novel GDP-fucose protein O-
                                                                                                                              28-FEB-2003 (Rel. 41, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
109-fucose protein O-fucosyltransferase 1 precursor (BC 2.4.1.221)
(Peptide O-fucosyltransferase) (O-FucT-1).
                                                                                                                                                                                                                                                       Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
NCBI TaxID=10090,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL, AR375885, AAL09577.1; -.
EMBL, BC046295, AAH46295.1; -.
MGD, MGI.2153207, Poluti.
GO; GO:0030173; C:integral to Golgi membrane; ISS.
GO; GO:008417; F:fucosyltransferase activity; ISS.
GO; GO:0001525; P:angiogenesis; IMP.
GO; GO:0001525; P:eart development; IMP.
                                                                    393 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           fucosyltransferase.";
J. Biol. Chem. 276:40338-40345(2001).
                                                                  PRT;
                                                                                                             (Rel. 41, Created)
                                                                  STANDARD;
                                                                                                                                                                                                                                      Mus musculus (Mouse)
RESULT 6
OFUL MOUSE
ID OFUL MOUSE
Q91ZW2;
C91ZW2;
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GDP-fucose p
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STRAIN-CS7BL/6J; TISSUE-Retina;
STRAIN-CS7BL/6J; TISSUE-Retina;
MEDLINE-20499374; PubMed=11042159; DOI=10.1101/gr.145100;
Canninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M.,
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
Wormanization and Subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new genes.";
Genome Res. 10:1617-1630(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the RIKEN Genome Exploration Research Group Phase I & II Team; "Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length CDNAs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN-GS7DEL/64; TISSUB-Retina;
MEDLINE-99279253; PubMed-L0349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cloning.";
Meth-Enzymol. 303:19-44(1999).
                                                                                                                                                                                                                                                                                                                                       3 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                                                                                                                                      Gaps
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus adult retina cDNA, RIKEN full-length enriched library,
clone:A930026F21 product:protein O-fucosyltransferase 1, full insert
                                                                                                                                        GDP-fucose protein O-fucosyltransferase
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STRAIN-CSTBL/GA; TISSUE-Retina;
MEDLINE-205:0913; PubMed=11076861; DOI=10.1101/gr.152600;
Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                [2] SEQUENCE FROM N.A. SEQUENCE FROM N.A. SEQUENCE FROM N.A. MEDLINE-2108560; MEDLINE-2108560; PubMed=11217851; DOI=10.1038/35055500; RIKER FANYOM CONSOCIALUM; "Punctional annotation of a full-length mouse CDNA collection."; Nature 409:685-690(2001).
                                                                                                                                                                            67 67 N-linked (GlCNAc. .) (Potential).
165 165 N-linked (GlCNAc. .) (Potential).
393 AA, 44688 MW, D982104E95E5CF3B CRC64;
GO; GO:0007399; P:neurogenesis; IMP.
GO; GO:0007219; P:Notch signaling pathway; IMP.
GO; GO:0006433; P:O-linked glycosylation; ISS.
GO; GO:0001756; P:somitogenesis; IMP.
Fucose metabolism; Glycoprotein; Glycosyltransferase; Manganese; Signal; Transferase.
1 30 Potential.
                                                                                                                                                                                                                                                                                                      ;
                                                                                                                                                                                                                                                           Length 393;
                                                                                                                                                                                                                                                           Score 331; DB 1; Length 39
Pred. No. 2.8e-33;
0; Mismatches 1; Indels
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STRAIN=C57BL/6J; TISSUE=Retina;
The FANTOM CONSORTIUM,
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1 Similarity 98.3%;
58; Conservative (
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Best Local Similarity
Matches 58; Conserv
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                                                                                                                                                                            Adachi J., Aizawa K., Akimura T., Arakawa T., Bono H., Carninci P., Fukuda S., Furuno M., Hanagaki T., Hara A., Hashizume W., Harabacha K., Hayakau N., Hiraokoto K., Hiraoka T., Hirozane T., Hori F., Imotani K., Ishii Y., Itoh M., Kagawa I., Kasukawa T., Katoh H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S., Kurihara C., Matsuyama T., Miyazaki A., Murata M., Nakamura M., Nishi K., Nomura K., Numazaki A., Murata M., Nakamura M., Salto H., Sakai C., Sakai K., Sakazume N., Sano H., Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M., Toya T., Yasunishi A., Muramatsu M., Hayashizaki T., Towaru A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.; Submitted (UUL-2001) to the EMBL/GenBank/DDBJ databases.
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Ebkaryota; Metazoa (Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
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Konno H., Akiyama J., Nishi K., Kitsunai T., Tashiro H., Itoh M., Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A., Yamamoto R., Matsunoto H., Sakaguchi S., Ikegami T., Kashiwagi K., Pujiwake S., Inoue K., Togawa K., Izawa M., Ohara E., Watshika M., Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., RIKEN integrated sequence analysis (RISA) system-384-format Sequencing pipeline with 384 multicapillary sequencer.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "A new superfamily of protein-O-fucosyltransferases, alpha2-fucosyltransferases and alpha6-fucosyltransferases: phylogeny and identification of conserved peptide motifs.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PubMed=12966037; DOI=10.1093/glycob/cwg113;
Martinez-Duncker I., Mollicone R., Candeller J.J., Breton C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 393;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 331; DB 2; Length 35
Pred. No. 2.8e-33;
0; Mismatches 1; Indels
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Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
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Last annotation update)
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GO; GO:0007219; P:Notch signaling pathway; IMP:
GO; GO:0001756; P:somitogenesis; IMP:
Glycosyltransferase; Transferase.
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GO:0005615; C:extracellular space; TAS.
                                                                                                                                                                                                                                                                                                                                                                                                          GO:0001525; P:angiogenesis; IMP.
GO:0006004; P:fucose metabolism; TAS.
GO:0007507; P:heart development; IMP
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25-OCT-2004 (TrEMBLrel. 28, Last seq
25-OCT-2004 (TrEMBLrel. 28, Last ann
Protein-O-fucosyltransferase 1.
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Best Local Similarity 98.3%;
Matches 58; Conservative
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Martinez-Duncker I., Oriol R., Mollicone R.;
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ781503; CAH03714.1; -.
GO; GO:0016757; F:transferase activity, transferring glycosyl. . .; IEA.
              GO; GO:0016757; F.transferase activity, transferring glycosyl. . .; IEA. Glycosyltransferase; Transferase.
SEQUENCE 395 AA; 44983 MW; 2A85521E22F38920 CRC64;
                                                                                                                                                                                                 4 GSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                                                                                                                            34 GSWDLAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 91
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Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "A new superfamily of protein-O-fucosyltransferases, alpha2-fucosyltransferases: phylogeny and identification of conserved peptide motifs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bos taurus (Bovine).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
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PubMed=12966037; DOI=10.1093/glycob/cwg113;
Martinez-Duncker I., Mollicone R., Candelier J.J., Breton C..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ch 92.4%; Score 326; DB 2; Length 391; I Similarity 88.5%; Pred. No. 1.2e-32; 54; Conservative 5; Mismatches 2; Indels
                                                                                                      92.6%; Score 327; DB 2; Length 395; 98.3%; Pred. No. 9e-33; ive 0; Mismatches 1; Indels
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EMBL; AJ781499; CAH03711.1; -.
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                                                                                                                                                      57; Conservative
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Gallus gallus (Chicken).
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NCBI_TaxID=9031;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Name=fut12;
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Qeevee;
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Query Match
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Q7T028;
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                                                                                                                                                                                                                                                                                                     18 AGSWDTAGYLLYCPCMGRFGNQAEHFLGALAFARALNRTLAVPPWIEYRHHRPPYTNLH 76
                                                                                                                                                                                                                                                                          3 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-93364082, PubMed-8358148;
Harris R.J., Spellman M.W.;
"O-linked fuces and other post-translational modifications unique to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=21523965; PubMed=11524432; DOI=10.1074/jbc.M107849200; MEDLINE=21523965; Alang Y., Shao L., Shi S., Harris R.J., Spellman M.W., Stanley P., Haltiwanger R.S.; Modification of epidermal growth factor-like repeats with O-fucose: "Modification of expression of a novel GDP-fucose protein O-fucosyltransferase."; J. Biol. Chem. 276:40338-40345 (2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-97175972; Pubmed-9023546; Wang Y., Lee G.F., Kelley R.F., Spellman M.W.; "Identification of a GDP-L-fucose:polypeptide fucosyltransferase and enzymetic addition of 0-linked fucose to EGF domains."; Glycobiology 6:837-842(1996).
                                                                                                                                                                                                                             0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                    25-077-2004 (Rel. 45, Created)
25-077-2004 (Rel. 45, Last aguence update)
25-077-2004 (Rel. 45, Last annotation update)
6DP-fucose protein O-fucosyltransferase 1 (BC 2.4.1.221) (Peptide to Cocyltransferase) (O-FucT-1) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cricetulus griseus (Chinese hamster).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Cricetinae,
                                                                                                                                                                            th 87.3%; Score 308; DB 2; Length 380; Similarity 86.4%; Pred. No. 2.2e-30; 51; Conservative 6; Mismatches 2; Indels
                                                     Orlou K.; Submitted (DEC-2002) to the EMBL/GenBank/DDBJ databases. EMBL, Ad5355764; CAD59738.1; -. Hypotherical protein. SEQUENCE 380 AA; 43316 MW; 83B53E342511811B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                            61 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EGF modules.";
Glycobiology 3:219-224(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION, AND GLYCOSYLATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                       Local Similarity
                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10029;
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                                             Oriol R.
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OFU1 CRIGR
ID OFU1 C
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Matches
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3 AGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH 61
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01-007-2003 (TrEMBLrel. 25, Last sequence update)
01-007-2003 (TrEMBLrel. 25, Last sequence update)
01-007-2004 (TrEMBLrel. 26, Last annotation update)
01-007-2004 (TrEMBLrel. 26, Last annotation update)
01-007-2004 (TrEMBLrel. 26, Last annotation update)
007-2004 (TrEMBLrel. 26, Last annotati
                                                                                                                                                                                                                                                                                               Gaps
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PUBMOd=12477932, DOI=10.1073/pnas.242603899;
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Klausner R.D., Collins F.S., Wagner L., Shemen C.M., Schuler G.D.,
Alschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.L., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheet T.E.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Frange C.,
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25-0CT-2004 (TIEMBLRel. 28, Last sequence update)
25-0CT-2004 (TIEMBLRel. 28, Last amotation update)
Hypothetical protein.
Xenopus tropicalis (Western clawed frog) (Silurana tropicalis).
Ebukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea; Pipidae;
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SEQUENCE FROM N.A.

Martinez Duncker I., Mollicone R., Candelier J.J., Breton C., Oriol R.;

Oriol R.;

Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.

EMBL: AJ579536; CAE18459.1; -

ZFIN: ZDB-GENRE-061303-2; pofult.

ZFIN: ZDB-GENRE-061303-2; pofult.

GO; GO:0016727; F::peptide-O-fucosyltransferase activity; IEA.

GO; GO:0016757; F::ransferase activity, transferring glycosyl.

Glycosyltransferase; Transferase.

SEQUENCE 395 AA; 45165 MW; ISBBE06172542EBA CRC64;
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Direct protein sequencing; Fucose metabolism; Glycoprotein; Glycosyltransferase; Manganese; Transferase.
                                                                                                                                                                                                                 Length 61;
                                                                                                                                                                                                   ch 83.6%; Score 295; DB 1; Length 61
1 Similarity 91.5%; Pred. No. 1.5e-29;
54; Conservative 0; Mismatches 5; Indels
                                                                                       61 61 61 E9507AE60018F23A CRC64;
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NCBI_TaxID=8364;
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SEQUENCE 1
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Submitted (NOV-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; Ango6070; CAE54305.1; -.
GO; GO:0016757; Fitransferase activity, transferring glycosyl. ..; IEA.
InterPro; IPR000886; ER target S.
InterPro; IPR00088; ER Target S.
Glycosyltransferase; Transferase.
Glycosyltransferase; Transferase.
SEQUENCE 384 AA; 43650 MW; 7CAA6ADC90F40032 CRC64;
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J., Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hallyk S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gaybes R.A., Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J., Marra M.A.;
                                                                                                                                                                  Generation and initial analysis of more than 15,000 full-length human
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    21 WDSSGYILYCPCMGRFGNQADHFLGSLAFAKMVNRTLVVPPWIVYNHHRPPYTNVH 76
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes;
Tetradontoidea; Tetraodontidae; Takifugu.
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83.9%; Pred. No. 2.4e-27;
tive 5; Mismatches 4; Indels
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                                                                                                                                                                                                                                                                Klein S., Gerhard D.S.;
Submitted (SEP-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BC08219; AAH82519.1; -.
Hypothetical protein.
SEQUENCE 380 AA; 43570 MW; 8BB938CE776D5238 CRC64;
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Last annotation update)
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05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Protein-O-fucosyltransferase.
                                                                                                                                                                                                   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
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80.4%; Pred. No. 2.4e-27;
ive 7; Mismatches 4;
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Best Local Similarity 80.1.
Best Local 45; Conservative
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les 47; Conservative
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                                                                                                                                                                                   and mouse cDNA sequences.
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TISSUE=Embryo;
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Q6EV65;
25-OCT-2004
25-OCT-2004
25-OCT-2004
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Martinez-Duncker I., Oriol R., Mollicone R.;
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ781504; CAH03715.1; -- GO; GO:0016757; F:transferase activity, transferring glycosyl. .; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
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                        Tetraodon nigroviridis (Green puffer).

Bukaryota, Metazoa, Chordata, Craniata; Vertebrata; Buteleostomi;
Actinopterygii, Neopterygii, Teleostei; Buteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes;
Tetradontoidea, Tetraodontidae; Tetraodon.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5 SWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYOHHKPPFTNLH
                                                                                                                                                                                                                                           "A new superfamily of protein-O-fucosyltransferases, alpha2-fucosyltransferases and alpha6-fucosyltransferases: phylogeny and identification of conserved peptide motifs."; Glycobiology 13:1C-5C(2003).
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                                                                                                                                                                      SEQUENCE FROM N.A.
PubMed=12966037; DOI=10.1093/glycob/cwg113;
Martinez-Duncker I., Mollicone R., Candelier J.J., Breton C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ch 80.5%; Score 284; DB 2; Length 38 1 Similarity 82.5%; Pred. No. 2.4e-27; 47; Conservative 5; Mismatches 5; Indels
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SEQUENCE 387 AA; 43713 MW; BE33E3B78C883480 CRC64;
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Job time : 36.1971 secs
Protein-O-fucosyltransferase 1.
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| GenCore version 5.1.6<br>Copyright (c) 1993 - 2005 Compugen Ltd. | OM protein - nucleic search, using frame plus p2n model | October 26, 2005, 05:08:04; Search time 1382.21 Seconds (without alignments) 2138.440 Million cell updates/sec | US-09-774-954-9 core: 353 1 MPAGSWDPAGYLLYCPCMGRLAVPPWIBYQHHKPPFTNLH 61 | able: BLOSUM62 | 4708233 seqs, 24227607955 residues | Total number of hits satisfying chosen parameters: 9416466 | B seq length: 0<br>B seq length: 2000000000          | Post-processing: Minimum Match 0%<br>Maximum Match 100%<br>Listing first 45 summaries |
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|                                                                  | OM protein - nuc                                        | Run on:                                                                                                        | Title:<br>Perfect score:<br>Sequence:                                   | Scoring table: | Searched:                          | Total number of 1                                          | Minimum DB seq length: 0<br>Maximum DB seq length: 2 | Post-processing:                                                                      |

Command line parameters:
-MODEL=frame+ p2n.model -DEV=xlh
-MODEL=frame+ p2n.model -DEV=xlh
-Q=/Cgn2\_1/USPTO\_spool\_h/US09774954/runat\_25102005\_105412\_6389/app\_guery.fasta\_1.917
-Q=/Cgn2\_1/USPTO\_spool\_h/US09774954/runat\_25102005\_105412\_6389/app\_guery.fasta\_1.917
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GenEmbl:\*

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2: gb\_hi;\*

4: gb\_ni:\*

5: gb\_ni:\*

6: gb\_pat:\*

7: gb\_ph:\*

8: gb\_pi:\*

10: gb\_ri:\*

11: gb\_qts:\*

13: gb\_un:\*

14: gb\_un:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

|           |   |        | Description     | AR163457 Sequence           | BD103196 O-fucosyl | CQ727777 Sequence | AJ781500 Pan trogl |   |
|-----------|---|--------|-----------------|-----------------------------|--------------------|-------------------|--------------------|---|
| SUMMARIES |   |        | a               | 1 353 100.0 1100 6 AR163457 | BD103196           | CQ727777          | AJ781500           | , |
|           |   |        | DB              | 9                           | 9                  | 9                 | 0                  |   |
|           |   |        | Match Length DB | 1100                        | 1100               | 1167              | 1167               |   |
|           | æ | Query  | Match           | 100.0                       | 100.0              | 100.0             | 100.0              |   |
|           |   |        | Score           | 353                         | 353                | 353               | 353                |   |
|           |   | Result | No.             |                             | 10                 | m                 | 4                  |   |

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|    | .n                  | 35          | ٠.                                                      | 1300                             |          | AK163432            |        | . 20100    |                           | ) ;         |
|    | <b>.</b> 01         | 353         | ٠,                                                      | 1300                             |          | BDIOSIBS            |        | AP163      | 163 C-Lucus               | , a         |
| •  | ~ 0                 | 200         |                                                         | 1514                             |          | ALL03431            |        | BD103      | 188 O-fucosv1             | , 5         |
|    | o c                 | 7 0         | ٠,                                                      | 101                              |          | 0010100             |        | 0000       | 582 HOMO SA               |             |
|    | v .                 | 200         |                                                         | 4564                             |          | HSM80330            |        | AL832      | 023 Homo sapi             | D.i         |
| _  | 2 -                 | 353         |                                                         | 5189                             |          | D80002              |        | D8000      | 2 Homo sapi               | en          |
|    | 1 -                 | 3.0         |                                                         | 5249                             |          | AF375884            |        | AF375      | 884 Homo sa               | id.         |
|    | 13                  | 353         | 100.0                                                   | 5266                             |          | AX780153            |        | AX780.     | 153 Sequenc               | ָשִׁ י      |
|    | 14                  | 353         | _                                                       | 11284                            |          | BD103190            |        | BD103      | 190 O-fucos               | 'n          |
|    | 15                  | 343         | <b>L</b> .                                              | 1056                             |          | AY344581            |        | AY344      | 581 Bos tau               | <u> </u>    |
|    | 16                  | 343         | ~ i                                                     | 1176                             |          | AY344580            |        | AY344      | ogo Bos cau               | i d         |
|    | 17                  | 34 L        | ~ ~                                                     | 1302                             | _        | AR375885            |        | AF37       | 5885 Mus mu               | BCU         |
|    | 10                  | 331         |                                                         | 1529                             | 0        | BC046295            |        | BC046295 N | 6295 Mus muscu            | Bcu         |
|    | 20                  | 327         |                                                         | 1188                             | 0        | AJ781499            |        | AJ78:      | 1499 Rattus               | on<br>Ou    |
|    | 21                  | 326         | -                                                       | 1176                             |          | AJ781503            |        | AJ781      | 503 Bos tauru             | ᆲ           |
|    | 22                  | 308         | m .                                                     | 920                              |          | AJ719585            |        | AJ719      | 585 Gailus                | g d         |
|    | 23                  | 308         | m .                                                     | 1732                             |          | GGA535754           |        | AUSSE      | 754 Galius                | ga          |
|    | 24                  | 308         | m ,                                                     | 2546                             |          | AJ720352            |        | AU / 20.   | 352 Gallus<br>536 Danio v | g i         |
|    | 57                  | 200         | n 11                                                    | 1 1 4 4                          |          | A.TEOE070           |        | A.1606     | 070 Fuen ru               | br          |
|    | 0 7 0               | 107         | ٠,                                                      | 1164                             |          | A.1781504           |        | AJ781      | 504 Tetraod               | uol         |
|    | 7 6 6               | 2 2 2 4 4 4 | ٠.                                                      | 1502                             |          | BC082519            |        | BC082      | 519 Xenopus               | נו          |
|    | 53 2                | 284         | ۱.                                                      | 1538                             |          | AJ781498            |        | AJ781      | 498 Silurar               | ra<br>Ta    |
|    | 30                  | 268         | a                                                       | 1505                             |          | XLA514425           |        | AJ514      | 425 Xenopus               | ٦:          |
|    | 31                  | 233         | 0                                                       | 145414                           |          | HSA392M18           |        | AL121      | 897 Human D               | AN          |
|    | 32                  | 233         | 0                                                       | 200329                           | 0        | AC078911            |        | AC07       | B911 Mus muscu            | lacu<br>And |
|    |                     | 233         | 0                                                       | 208614                           | 0        | AL807380            |        | ALBO       | /360 MOUSE                | t c         |
|    | O 34                | 23.0        | - c                                                     | 240336                           |          | AC034844            |        | AC124      | 371 Rattus                | 2 2         |
|    |                     | 223         | ۰.                                                      | 12047                            |          | A.TR31490           |        | AJ831      | 490 Drosophil             | ii.         |
| •  | 37                  | 223         | ۰ م                                                     | 1209                             |          | C0590403            |        | 06500      | 403 Sequence              | ě           |
|    | 38                  | 223         | · N                                                     | 1295                             |          | AY118651            |        | AY118      | 651 Drosoph               | 111         |
| 17 | 39                  | 223         | N                                                       | 1320                             |          | AR509393            |        | AR509      | 393 Sequence              | <u>ب</u>    |
|    | 40                  | 223         | α.                                                      | 1579                             |          | AB093572            |        | AB093      | 572 Drosopt               | 111         |
|    | 41                  | 218         | 00 0                                                    | 5009                             |          | AR163453            |        | AKIES      | 453 Sequence              | e [         |
|    | 24.4                | 202         | 58.0                                                    | 1146                             | ۰ ۳      | AJ781502            |        | AJ781502   | 502 Ciona sav             | av          |
|    | 4 4                 | 200         | 7                                                       | 1841                             |          | AK112708            |        | AK112      | 708 Ciona int             | nt          |
|    | 45                  | 192         | 4                                                       | 1160                             |          | AJ831492            |        | AJ831      | 492 Onchoce               | ırc         |
|    |                     |             |                                                         |                                  |          | ALIGNMENTS          |        |            |                           |             |
|    |                     |             |                                                         |                                  |          |                     |        |            |                           |             |
|    | RESULT 1            |             |                                                         |                                  |          |                     |        |            |                           |             |
|    | AR163457            | 194         | 73457                                                   |                                  |          | 1100 bp             | DNA    | linear     | PAT 17-0CT-2001           | -2001       |
|    | DEFINITION          |             | -                                                       | 6 from                           | patent   | ent US 6270987.     |        |            |                           |             |
|    | ACCESSION           |             | AR163457                                                |                                  |          |                     |        |            |                           |             |
|    | VERSION             | AR          | 163457.1                                                | G                                | :1623406 | 162                 |        |            |                           |             |
|    | SOURCE              | ď           | Unknown.                                                |                                  |          |                     |        |            |                           |             |
|    | ORGANISM            |             | Unknown.                                                |                                  |          |                     |        |            |                           |             |
|    |                     |             | Unclassified                                            | ed.                              | 3        |                     |        |            |                           |             |
|    | REFERENCE           |             | <pre>1 (bases 1 to 1100) Wang, Y, and Spellman, 1</pre> | s 1 to 1100)<br>and Spellman,M.W | man      | . Μ. Έ              |        |            |                           |             |
|    | TITLE               |             | Eucosylt                                                | ransfe                           | ase      |                     |        |            |                           |             |
|    | JOURNAL             | Pat         | cent: US                                                | US 6270987-A 16                  | 4-78     | 16 07-AUG-2001      | 1;     |            |                           |             |
| •  | SOUTC               | é           | <b>.</b> ⊢                                              | 110(                             |          | 272777              |        |            |                           |             |
|    |                     | :           |                                                         | organi                           | ו"=שנ    | /organism="unknown" |        |            |                           |             |
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|    | nent                | Score       | : 80                                                    | 1 126                            | 3.5      | Length              |        | 1100       |                           |             |
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Pan troglodytes mRNA for protein-O-fucosyltransferase 1 (fut12
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                                                                                                                                                                                                                                                                                                                                         Venter, C.J., Adams, M.C., Li, P.W. and Myers, E.W.
Kits, such as nucleic acid arrays, comprising a majority of
humanezons or transcripts, for detecting expression and other uses
121 ACCTIGGCIGICCCICCTIGGAIIGAGIACCAGCAICACAAGCCICCIIICACCAACCIC 180
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AJ781500.1 GI:50057069
Fut12 gene; pofut1 gene; protein-O-fucosyltransferase 1.
Pan troglodytes (chimpanses)
Pan troglodytes
Eukaryotes, Metazoa (Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.
                                                                                                                                                                                                                                                                                   Enkaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
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A new superfamily of protein-O-fucosyltransferases,
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Patent: WO 02068579-A 13711 06-SEP-2002;
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Sequence 13711 from Patent W002068579.
CQ727777.1 GI:42294771

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17-DEC-1997 UP 1998532877
31-JAN-1997 US 08/792498,26-NOV-1997 US 08/792498,26-NOV-1997 US US 08/792498,26-NOV-1997 US US 08/792498,26-NOV-1997 US US 07/792499,26-NOV-1997 US US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-1997 US 07/792499,26-NOV-19
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| Organism='Unidentified'.
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| mol_type="genomic DNA"
| db_xref="taxon:32644"
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1 (bases 1 to 1300)
Wang, Y. and Spellman, M.W.
O-fucosyltransferase
Patent: US 6270987-A 6 07-AUG-2001;
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GNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLHVSYQKYFKLEPLQAYHRV
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KSELPTGISFSASYREQWSORFSPKEHPVLALPGAPAQFPVLEEHPLQKYWWSDEM
VKTGAQIHAHLWPYVGIHLRIGSDWKNACAMLKOGTAGSHFWASPCVGYSKSTAA
PLTMTWCLPDLKEIQRAVKLWVRSLDAGSVYVATDSESYVPELQQLFKGKVKVVSLKP
EVAQVDLYILGQADHFIGNCVSSFTAFVKRERDLQGRPSSFFGMDRPPKLRDEF"
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   alpha2-fucosyltransferases, and alpha6-fucosyltransferases: phylogeny and identification of conserved peptide motifs Glycobiology 13 (12), 1C-5C (2003)
                                                                                                                                                                                                                                                                                                                                                                               /produči="protein-O-fucosyltransferase 1"
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                                                                          Martinez-Duncker, I., Oriol, R. and Mollicone, R. Phylogeny of fucosyltransferases Unpublished
3 (bases 1 to 1167)
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Matches:
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Sequence 6 from patent US 6270987.
ARI63452.
ARI63452.1 GI:16234057
                                                                                                                                                     Direct Submission
Submitted (06-JUL-2004) Oriol R.,
Vaillant-Couturier, 94807, FRANCE
Location/Qualifiers
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AR163452
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PAT 27-AUG-2002
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...s Wang,Y. and Spellman,M.W.
..s Wang,Y. and Spellman,M.W.
..s O-fucosyltransferase
..oURNAL Patent: JP 2001527389-A 2 25-DEC-2001;
GENENTRECH INC
COMMENT DN JP 2001527389-A/2
PP 17-DEC-1997 JP 1998532877
PR 31-JAN-1997 US 08/7
PR 31-JAN-1997 US 08/7
PR 31-JAN-1997 US 08/7
CC Strandedness
...C CT Topology:
FH Key
FT F
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/organism="unidentified"
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BC000582 1524 bp mRNA linear PRI 29-JUN-2004 Homo sapiens protein O-fucosyltransferase 1, transcript variant 2, mRNA (cDNA clone MGC:2482 IMAGE:3162533), complete cds. BC000582 BC000582. GI:37588976
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Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Rukaryota; Metazoa; Chordata; Catarrhini; Hominidae; Homo.
I (bases 1 to 1924)
Strausberg, R. L., Feingold, E.A., Grouse, L.H., Derge, J.G.,
Klausner, R.D., Collins, F.S., Wagner, L., Schuler, G.D.,
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17-20101237389-A/1
17-DEC-1997 UF 1998532877
17-DEC-1997 US 087782498, 26-NOV-1997 US 08778498, MANG, MICHREL W SPELLMAN
C12N15/54, C12N9/10, C07K16/40
Strandedness: Single;
Cropology: Linear;
O-fucosyltransferase
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1. 1514
Location/Organism="Unidentified'.
Location/Qualifiers
1. 1514
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PA 2001527389-A/1 25-DEC-2001;
GENENTECH INC
OS Unidentified
PN 2001527389-A/1
PP 17-DEC-1997 UP 1998532877
PP 31-JAN-1997 US 09/792498,26-NOV-1
PP 31-JAN-1997 US 09/792498,26-NOV-1
PP 31-JAN-1997 US OG/7816/40
CC Strandedness: Single;
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O-fucosyltransferase.
BD103188
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Score: 353.00
Percent Similarity: 100.00%
Best Local Similarity: 100.00%
Query Match: 100.00%
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Unclassified.
1 (bases 1 to 1514)
Wang, Y. and Spellman, M.W.
O-fucosyltransferase
Patent: US 6270987-A 2 07-AUG-2001;
Location/Qualifiers
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ARQUENCE 2 from patent US 6270987.
AR163451 GI:16234056
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Best Local Similarity: 1
Query Match:
     Percent Similarity:
Best Local Similarity:
Query Match:
DB:
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316 CAT 318
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Neuherberg, GERMANY
Clone from S. Wiemmann, Molecular Genome Analysis, German Cancer
Research Center (NFEZ); Email s.wiemann@dkfz-heidelberg.de;
Research Center (NFEZ); Email s.wiemann@dkfz-heidelberg.de;
sequenced by AGONA (Berlin/Germany) within the CDNA sequencing
consortium of the German Genome Project.
This clone (DKFZ9451J114) is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERWANY; Email: clone@rzpd.de Further
information about the clone and the sequencing project is available
at http://mips.ggf.de/proj/cDNA/.
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Homo sapiens mRNA; cDNA DKFZp451J114 (from clone DKFZp451J114).
AL832023.1 GI:21732563
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1 (Dases 1 to 4560)
Wambutt, R., Heubner, D., Mewes, H.W., Weil, B., Amid, C., Osanger, A., Direct Submission
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          239 ACCTTGGCTGTCCCTCCTTGGATTGAGTACCAGCATCACAAGCCTCCTTTCACCAACCTC
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Mismatches:
Indels:
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| db_xref="LocusID:23509"
| db_xref="MIM:607491"
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Altschul, S.F., Zeeberg, B., Buetcow, K.H., Schaefer, C.F., Bhat, N.K., Hopkins, R.F., Jordan, H., Moore, T., Max, S.I., Wang, J., Hsieh, F., Diatchenko, L., Marusina, K., Farmer, A.A., Rubin, G.M., Hong, L., Stapleton, M., Soares, M.B., Bonaldo, M.F., Casavant, T.L., Scheetz, T.E., Brownstein, M.J., Usdin, T.B., Toshiyuki, S., Carninci, P., Prange, C., Raha, S.S., Loquellano, N.A., Peters, G.J., Abramson, R.D., Mullahy, S.J., Bosak, S.A., McEwan, P.J., Malek, J.A., Gunaratne, P.H., Richards, S.Y., Worley, K.C., Hale, S., Garcia, A.M., Gay, L.J., Hulyk, S.W., Villalon, D.K., Muzny, D.M., Sodergren, E.J., Lu, X., Gibbs, R.A., Fahey, J., Whiting, M., Madan, A., Young, A.C., Shevchenko, Y., Bouffard, G.G., Blackeley, W., Touchman, J.W., Green, E.D., Dickson, M.C., Rodriguez, A.C., Grimwood, J., Schmutz, J., Myers, R.M., Butterfield, Y.S., Krzywinski, M.I., Skalska, U., Smailus, D.E., Schnerch, A., Schein, J. E., Jones, S.J. and Marra, M.A.
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This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 27436890.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: niscrmgc@nhgri.nih.gov
Akhter, N., Ayele, K., Beckstrom-Sternberg, S.M., Benjamin, B.,
Blakesley, R.W., Bouffard, G.G., Breen, K., Brinkley, C., Brooks, S.,
Blakesley, R.W., Bouffard, G.G., Breen, K., Gupča, J., Haghighi, P.,
Hansen, N., Ho, S.-L., Karlins, E., Kwong, P., Laric, P., Legaspi, R.,
Maduro, Q.L., Masiello, C., Maskeri, B., Mastrian, S.D., McCloskey, J.C.,
McDowell, J., Pearson, R., Stantripop, S., Thomas, P.J., Touchman, J.W.,
Tsurgeon, C., Vogt, J.L., Walker, M.A., Wetherby, K.D., Wiggins, L.,
Young, A., Zhang, L.-H. and Green, E.D.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
Submitted (15-NOV-2000) National Institutes of Health, Mammalian
Gene Collection (MGC), Cancer Genomics Office, National Cancer
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On Oct 8, 2003 this sequence version replaced gi:12653608.
Contact: MGC help desk
Email: cgapbs-remail.nih.gov
Tissue Procurement: ATCC
CDNA Library Preparation: Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLML)
Sequencing by: National Institutes of Health Intramural
Sequencing Center (NISC),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human and mouse cDNA sequences
Proc. Natl. Acad. Sci. U.S.A. 99 (26), 16899-16903 (2002)
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/db_xref="taxon:9606"
/clone="MGC:2482 IMAGE:3162533"
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/clone lib="NIH MGC:19"
/lab_host="DH10B-R"
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Web site: http://www.nisc.nih.gov/
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Homo sapiens KIAA0180 mRNA, complete cds.
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1 (bases 1 to 5249)
Mangi,Y., Shoo,L., Shi,S., Harris,R.J., Spellman,M.W., Stanley,P. and Haltiwanger,R.S.

Modification of epidermal growth factor-like repeats with O-fucose. Molecular cloning and expression of a novel GDP-fucose protein O-fucosyltransferase
O-fucosyltransferase
10. Biol. Chem. 276 (43), 40338-40345 (2001)
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OS UP 20125
PP 25-DEC-19
PR 31-JAN-19
YANG WANG, NI-JAN-19
CC 12N15/54
CC TOPO10GY;
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serine or threonine on epidermal growth factor-like
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Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                             Direct Submission
Submitted (02-MAY-2001) Cell Biology, Albert Einstein College of
Medicine, 1300 Morris Park Ave., New York, NY 10461, USA
Location/Qualifiers
   2 (bases 1 to 5249)
Shi,S., Stanley,P., Wang,Y., Shao,L., Harris,R.J., Spellman,M.W.
and Haltiwanger,R.S.
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PAT 27-AUG-2002
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Haferlach, T., Schoch, C., Kern, W., Kohlmann, A., Schnittger, S. Dugas, M., Eils, R., Brors, B. and Mergenthaler, S. Novel genetic markers for leukemias Novel genetic wo 0303443-A 2310 15-MAY-2003; Deteches Krebsforschungszentrum (DE); Ludwig-Maximilian-Universitaet Muenchen (DE); Haferlach, To. PD Dr. Dr. (DE); Schoch, Claudia (DE); Kern, Wolfgang (DE) Dr. Dr. (DE); Contion/Qualifiers
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Patent: JP 2001527389-A 3 25-DEC-2001;
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JP 2001527389-A/3
S-DEC-2001
17-DEC-1997 UP 1998532877
31-JAN-1997 US
G WANG, MICHAEL W SPELLMAN
C12N15/54 C12N9/10, C07K16/40
Strandedness: Single;
                                                                                                                                                                                                                                                                                                                                                                                                       1. .5266
/organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
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O-fucosyltransferase
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1 (bases 1 to 11284)
Wang, Y. and Spellman, M.W.
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Percent Similarity:
Best Local Similarity:
Query Match:
DB:
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                                                Alignment Scores:
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Location/Qualifiers

1. 1056

Amol_Lype="mmRN" |

Amol_Lype="mmRN" |

1. 1056

| gene="pofut1" |

1. 1056

| gene="pofut1" |

Amodon_start=1 |

| prodin_start=1 |

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Bos taurus
Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Euteria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovinae; Bos.
1 (Dases 1 to 1056)
Loriol,C., Germot,A., Dupuy,F. and Maftah,A.
Genomic organization and expression profile of O-fucosyltransferase genes, poful and poéut2, in Bos taurus
                                                                                                                                                                                                                                                                                            AY344581 1056 bp mRNA linear MAM 03-AUG-2003
Bos taurus protein O-fucosyltransferase 1b (pofut1) mRNA, complete
cds.
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Submitted (17-JUL-2003) EA 3176 Glycobiologie et Biotechnologie,
Faculte des Sciences et Techniques, 123, Avenue A. Thomas, Limoges
87060, France
                                                                         111284
61
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                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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AY344581.1 GI:33303531
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Loriol, C.
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Best Local Similarity:
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AY344581
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BI524031 603052202 BF315757 601900828 BU155142 AGBNCOURT C774833 ILLINIGEN BI199190 602758739 BE260030 601150556

3G747760 BX345989 BP457865 601105080

BP457865 E

603252494 AGENCOURT

BM478111 BI757540 BI559635

BY778150 BB633858 BB851550

BB851550 B0620C09-

BB618795 BY728018 BB623905 BY752500

CF155036 BB618795 B

BY728018 EBE623905 EBY752500 E

BY778150 BY328132

BB633858

AW415368 49609 MAR BF444498 262391 MA BP459416 BP459416

170004249

BX449172

BX449172 | AW415368

601869779

CR617950 1 BF206548 CN348922

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Run on:

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Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 5' sequence of the clone insert Clone from S. Wiemann,
This is the 5' sequence of the clone insert Clone from S. Wiemann,
Molecular Genome Analysis, German Cancer Research Center (DKFZ);
Email s.wiemann@dkz-heidelberg.de; sequenced by BMFZ (Biomedical
Research Center at the Heinrich-Heine-University,
Duesseldorf/Germany) within the cDNA sequencing consortium of the
German Genome Project. This clone (DKFZ9459B068) is available at
the RZPD in Berlin. Please contact the RZPD: Reseaucrenzentrum,
Heubnerweg 6, 14059 Berlin-Charlottenburg, GERMANY; Email:
clone@rzpd.de Further information about the clone and the
sequencing project is available at
http://mips.sgf.de/projects/cdna/.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pongo pygmaeus
Wakaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Pongo.
1 (bases 1 to 520)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Koehrer,K., Beyer,A., Mewes,H.W., Weil,B., Amid,C., Osanger,A.,
Fobo,G., Han,M. and Wiemann,S.
Pongo pygmaeus mRNA (Koehrer,K., Beyer,A., Mewes,H.W., et al.)
Unpublished (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        520 bp mRNA linear EST 07-JUL
DKF2p459B068 r1 459 (synonym: pcor1) Pongo pygmaeus cDNA clone
DKF2p459B068 5', mRNA sequence.
CRS43310
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                                                                                                                                                            BF206548
CN348922
BX449172
AW415368
BF444498
BP459416
BP457865
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BM478111
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BY778150
BY328132
BB633858
BB851550
CF155036
BB618795
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BY752497
                                                     BI524031
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BU155142
CO774833
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BE260030
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BB631131
                          BG747760
BX345989
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CR543310
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Command line parameters:
-MODEL=frame+ p2n.model -DBY=xlh
-MODEL=frame+ p2n.model -DBY=xlh
-Q=/Cogn2_1/UGPFO_epool_h/USO9774954/runat_25102005_105432_6406/app_query.fasta_1.917
-Q=/Cogn2_1/UGPFO_epool_h/USO9774954/runat_25102005_105432_6406/app_query.fasta_1.917
-DBCALIGN=200 -TRR_SCORE=pct -THR_MAX=100 -TRR_MIN=0 -ALIGN=50
-UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=buman40.cdi -LIST=45
-UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=buman40.cdi -LIST=45
-UNITS=bits -START=1 -END=-1 -MATRIX=NO -TRR_MIN=0 -ALIGN=5 -NODE=LOCAL
-UNITS=pcc -NORN=ext -HEAFSIZE=500 -MINIEN=0 -MAXIEN=200000000
-USRR=US09774954 @CGN 1 1_5334 @runat_25102005_105432_6406 -NCPU=6 -ICPU=3
-NO MANP -LARGEQUERY -NEG SCORES=0 -MATT -DSPBICOK=100 -LONGLOG
-DBV TIMEOUT=120 -WARN TIMEOUT=30 -THERADS=1 -XGAPEDP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CR543310 DKFZp459B
CN349927 170005999
BE261336 601152308
BE265956 601147417
CN348926 170005326
AL55719 AL555719
CV020522 7968 Full
AU137536 AU137536
CN348925 170005328
                                                                                                   October 26, 2005, 05:59:38 ; Search time 1065.43 Seconds (without alignments) 2179.320 Million cell updates/sec
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                                                                                                                                                                                               1 MPAGSWDPAGYLLYCPCMGR......LAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                                                                                                                                                                                      68479088
               GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                          - nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                       34239544 segs, 19032134700 residues
                                                                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
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Maximum Match 100%
Listing first 45 summaries
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7.0
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Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
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Maximum DB seq length: 2000000000
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353
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gb_est2::
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gb_est3::
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                                                                                                                                                                                                  Sequence:
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Result No.

EST 07-JUL-2004

BB642654 BY728337

BY752497 I BB642654 I BY728337 E

BY752497

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Length:
Matches:
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                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                  61
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No
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BE261136
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17000599936929 GRN_PRENEU Homo sapiens cDNA 5', mRNA sequence.
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Aorganism="Homo sapiens"
//organism="Homo sapiens"
//organism="Homo sapiens"
//db xref="taxon:9606"
//tissue_type="embxpoinc stem cell, retinoic acid and mitogen-treated hES cell line H7"
//clone_lb="GRN PERBEW"
//note="foligo dT primed, full-length enriched cDNA library
from hES cell line H7 (p29) maintained in feeder-free
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/mol_type="mmNn"
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/lab_host="mul08"
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/clone="Vector: psporti_Sfi; Site_1: Sfilh, Site_2: SfilB"
                                                                                                                                                                                                                                                                                                                                                                    175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

[ (bases 1 to 550)
Brandenberger, R., Wei, H., Zhang, S., Lei, S., Murage, J., Fisk, G.J.,
Brandenberger, R., Wei, H., Zhang, S., Lei, S., Murage, J., Fisk, G.J.,
Ini, Y., Xu, C., Fang, R., Guegler, K., Rao, M.S., Mandalam, R.,
Irabkowski, J. and Stanton, L.W.

Transcriptome characterization elucidates signaling networks that
control human ES cell growth and differentiation

Nat. Biotechnol. 22 (6), 707-716 (2004)
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                                                                                                                                                                                                                                                                                                                                                                                                  41 ThrLeuAlaValProProTrplleGluTyrGlnHisHisLysProProPheThrAsnLeu
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Fax: 650 473 7760
Email: Exhandenberger@geron.com
Insert Length: 550 Std Error: 0.00.
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61
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Conservative:
Mismatches:
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CN348927.1 GI:47348861
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Geron Corporation
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Homo sapiens
                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
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How sapiens (human)

How sapiens (human)

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How sapiens

Rearayota, Metazota, Cararthini; Hominidae; Homo.

I (base; Lto 551)

National Institutes of Health, Mammalian Gene Collection (MGC)

National Institutes of Health, Mammalian Gene Collection (MGC)

National Institutes of Health, Mammalian Gene Collection (MGC)

Tissue Procurement ATC

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

CONA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

CONA Library Arrayed by: Column: 01

High quality sequence stops: 551.

High quality sequence stops: 551.

High quality sequence stops: 551.

High duality sequence stops: 551.

High duality sequence stops: 551.

And LYDes—MRNAM

Ab xref="taxon: 9606"

Aclone="INAGE: 3508464"

Atissue Lype="memory sapiens"

Atissue Lype="memory sapiens"

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conditions. Embryoid bodies were generated in the presence of all-trans retinoic and mitogens."
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Mismatches:
Indels:
Gaps:
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US-09-774-954-9 (1-61) x BE262956
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/lab_host="NH10B (phage-resistant)"
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/lab_host="NH10B (phage resistant)"
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/lab_host="NH10B (phage resistant) / lab_host="NH10B (phage resistant)"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100 AIGCCTGCGGGCTCCTGGGACCCGGCCGGTTACCTGCTCTACTGCCCCTGCATGGGGCGC 159
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (base 1 to 576)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDNA Library Preparation: Ling Hong/Rubin Laboratory CDNA Library Preparation: Ling Hong/Rubin Laboratory CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: image.llnl.gov Plate: LLCM122 row: b column: 06 High quality sequence start: 11 High quality sequence stop: 576. High quality sequence stop: 576.
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/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:3162533"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                       (1-551)
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Homo sapiens (human)
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                                                                                                                           Percent Similarity:
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                                                 Alignment Scores:
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/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/tissue_type="embryonic stem cells, cell lines H1, H7, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST 16-MAY-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone_lib="GRN_ES"
/note="oligo dT_primed, full-length enriched cDNA library
from undifferentiated hBS cell lines H1 (p32), H7 (p29),
and H9 (p26) maintained in feeder-free conditions"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Bukaryota; Metazoa; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 595)

1 (bases 1 to 595)

1 Erandenberger, R., Wei, H., Zhang, S., Lei, S., Murage, J., Fisk, G.J., Li, Y., Xu, C., Tang, R., Guegler, K., Rao, M.S., Mandalam, R., Lebkowski, J. and Stanton, L.W.

Transcriptome characterization elucidates signaling networks that control human ES cell growth and differentiation

Mat. Biotechnol. 22 (6), 707-716 (2004)

Regenerative Medicine
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                                                                                                                                                                                                                                                                                                41 ThrLeuAlaValProProTrpIleGluTyrGlnHisHisLysProProPheThrAsnLeu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          595 bp mRNA linear EST 16
17000532646873 GRN_ES Homo sapiens cDNA 5', mRNA sequence.
CN348926.
CN348926.1 GI:47348860
EST.
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230 Constitution Drive, Menlo Park, CA 94025, USA
Tel: 650 473 8658
Fax: 650 473 7760
Email: rbrandenberger@geron.com
Insert Length: 595 Std Error: 0.00.
Location/Qualifiers
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Matches:
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293 CAT 295
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Retazota: Metazota: Chordata; Craniata; Vertebrata; Euteleostomi;
Bukaryota; Metazota; Metazota; Catarrhini; Hominidae; Homo.

Mammalia: Eutheria; Primates; Catarrhini; Hominidae; Homo.

E 1 (bases 1 to 610)

Is Ini Was Gruber.

Li Was Gruber.

Li Mas Gruber.

Li Mas Gruber.

Li Mas Gruber.

Contect: Genoscope

Genoscope - Centre National de Sequencage

Contect: Genoscope

Genoscope - Centre National de Sequencage

Z rue Gaston Cremieux, CP 5766 - 91057 EVRY cedex - FRANCE

Email: Sequence one.ffr. Neb: www.genoscope.cns.fr

Email: Sequence one.ffr. Neb: www.genoscope.cns.fr

Email: Sequence one.ffr.

But strand cDNA was Drimed With a NotI-oligo(dY) primer. Five prime

end enriched, double-strand cDNA was digested with Not I and cloned

into the Not I and EcoR V sites of the pCWVSPORT 6 vector. Library

was normalized. Library was constructed by Life Technologies, a

division of Invitrogen. This sequence belongs to sequence cluster
                                                                                                                                                                                                                                                                                                                                                                                ALSS5719 610 bp mRNA linear EST 30-MAR-2004 ALSS5719 Homo sapiens HELA CELLS COT 25-NORMALIZED Homo sapiens cDNA clone CSODK003YN13 5-PRIME, mRNA sequence.

ALSS5719 ALSS5719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Homo sapiens"
/mol_type="marka."
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/db xref="letaxon:9606"
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/cell_type="The "A cells COT 25-NORWALIZED"
/coll_type="The strand CDNA was primed with a Not1-oligo(dT)
primer. Five prime and enriched, double-strand cDNA was
digested wich Not I and cloned into the Not I and SCOR V
sites of the pCMVSPORT 6 vector. Library was normalized."
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                                                                                                                21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsnArg
                                                                                                                                         159 TITGGGAACCAGGCCGATCACTTCTTGGGCTCTCTGGCATTTGCAAAGCTGCTAAACCGT
                                                                                                                                                                                         41 ThrieuAlaValProProTrpIleGluTyrGlnHisHisLysProProPheThrAsnLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        For more information about this cluster, see http://www.genoscope.cns.fr/cdna?s=CSODK003CG07QP1&c=9980.f. Location/Qualifiers
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Mismatches:
Indels:
Gaps:
US-09-774-954-9 (1-61) x CN348926 (1-595)
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(1-610)

US-09-774-954-9 (1-61) x AL555719

Percent Similarity: Best Local Similarity: Query Match: DB:

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/note="Vector: mixed, The ORFs were PCR amplified from the MCC (Mammalian Gene Collection) as of April 2004 and cloned by recombinational Gateway cloning into pDONR223 Donor vector. Reference: MGC (Mammalian Gene Collection) Program Team, Generation and Initial Analysis of more than 15,000 Phill-iength Human and Mouse CDNA Sequences. PNAS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CV029252 656 bp mRNA linear EST 20-AUG-2004 7968 Full Length cDNA from the Mammalian Gene Collection Homo sapiens cDNA 5' similar to BC000582, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Genome Res. (2004) In press
Genome Res. (2004) In press
Marc Vidal Laboratory
Dana Farber Cancer Institute
1 Jimmy Fund Way Smith 858, BOSTON, MA 02115, USA
Tel: 617 632 5180
Fax: 617 632 5139
Fax: 617 632 5139
Faxi: 617 632 5139
GRADHALF Sequence Tag (OST) of Gateway Entry construct. Each cloned ORF results from a PCR reaction using an MGC full-length cDNA as
PCR PRIMERS
232
                                                                                                                                                                                                                                  40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 656)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Landard Historian Richikawa, T., Hao, T., Bertin, N., Li, S., Dricot, A., Li, N., Rosenberg, J., Lamesch, P., Viddalain, D. O., Clingingsmith, T., Hartley, J.L., Esposito, D., Cheo, D., Woore, T., Simmons, P., Sequerra, R., Bosak, S., Doucette-Stamm, L., Le Peuch, C., Vandenhaute, J., Cusick, M. E., Albala, J. S., Hill, D. B. and Vidal, M. Human ORFeome Version 1.1: a Platform for Reverse Proteomics
                                                                                                               21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsnArg
                                                                                                                                                         173 TITGGGAACCAGGCCGAICACTICTITGGGCTCTCTGGCATTTGCAAAGCTGCTAAACCGT
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/clone lib="Full Length cDNA from the Mammalian Gene
Collection"
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BACKWARD: ATGGGCGCCGCGTGAGAA
Insert Length: 656 Std Brror: 18.00
Plate: 11019 row: 04 column: B
seq primer: ACTGGCGTCGTCTTTACAACGTCGTGACTGGGAAAAC
High quality sequence start: 87
High quality sequence stop: 655
POLYA=No.
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/mol_type="mRNA"
/db_xref="taxon:9606"
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CV029252.1 GI:51487402
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Homo sapiens
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US-09-774-954-9 (1-61) x AU137536 (1-699)
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Best Local Similarity:
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Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 699)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ota,T., Nishikawa,T., Suzuki,Y., Ishii,S., Saito,K., Kawai,Y.,
Yamamoto,J., Wakamatsu,A., Nakamura,Y., Nagai,T., Sugano,S. and
                                                                                                                                                                                                                                                                                                                                                                                                     41 ThrLeuAlaValProProTrpIleGluTyrGlnHisHisLysProProPheThrAsnLeu
                                                                                                                                                                                                            1 MetProAlaGlySerTrpAspProAlaGlyTyrLeuLeuTyrCysProCysMetGlyArg
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AU137536.1 GI:10998075
EST. Homo sapiens (human)
Homo sapiens
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/ organism="Homo sapiens"

// organism="Homo sapiens"

// mol_type="mRNA"

// db xref="taxon:9606"

/ tissue_type="embryonic stem cells, embryoid bodies

/ derived_from H1, H7 and H9 cells"

// clone_lib="GRN_EB"

// note="oligo dT_primed, full-length enriched cDNA library

from embryoid body outgrowths derived from hES cell lines

from embryoid body outgrowths derived from hES cell lines

conditions."
                                                                                                                                                                                                                                                                                                                                                             CN348925 705 bp mRNA linear EST 16-MAY-2004
17000532814105 GRN_EB Homo sapiens CDNA 5', mRNA sequence.
CN348925
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                                                                                                                                                                Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi, Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.

1. (bases 1 to 705)

1. Randenberger, R., Wei, H., Zhang, S., Lei, S., Murage, J., Fisk, G.J., Li, Y., Xu, C., Fang, R., Guegler, K., Rao, M.S., Mandalam, R., Lebkowski, J. and Stanton, L. W.
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                                       191
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Contact: Brandenberger R
Regenerative Medicine
21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsnArg
                                                                                                         192 TTTGGGAACCAGGCCGATCACTTCTGGGCTCTCTGGCATTTGCAAAGCTGCTAAACCGT
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230 Constitution Drive, Menlo Park, CA 94025, USA
Tel: 650 473 8658
Fax: 650 473 7760
Fax: 650 473 7760
Insert Length: 705 Std Error: 0.00.
Location/Qualifiers
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.

Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.

Mational Institutes of Health, Mammalian Gene Collection (MGC)

Mational Institutes of Health, Mammalian Gene Collection (MGC)

LONDAubished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov

Tissue Procurement: Arc.

CONA Library Preparation: Ling Hong/Rubin Laboratory

CONA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

MA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: image.llnl.gov

Plate: LLCANIS sequence stop: 710.

Location/Qualifiers
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/mol_type="mRNA"
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/clone="IMAGE:3503461"
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AUTHORS
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1 (Dasea 1 to 753)

National Institutes of Health, Mammalian Gene Collection (MGC)

National Institutes of Health, Mammalian Gene Collection (MGC)

Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail.inh.gov

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail.inh.gov

CDNA Library Preparation: Ling Hong/Rubin Laboratory

CDNA Library Preparation: Ling Hong/Rubin Laboratory

CDNA Library Arrayed by: They Le Genomics, Inc.

Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LuM. at:

http://image.lln.gov

Plate: Licromia Library Robert Straibution and Colone distribution and Colone Library Sequence stope: 699.

High quality sequence stope: 699.

High quality sequence stope: 699.

Location/Qualifiers

/ Loone="Rober = MRAGE: 4591867"

//Loone="InAGE: 4591867"

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Mismatches:
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Homo sapiens
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Best Local Similarity:
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Pred. No.:
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Genoscope - Centre National de Sequencage
2 rue Gaston Cremieux, CP 5706 - 91057 EVRY cedex - FRANCE
Email: sequencope.cns.fr, Web : www.genoscope.cns.fr
1st strand cDNA was primed with a NotI--oligo(dT) primer. Five prime
end enriched, double-strand cDNA was digested with Not I and cloned
into the Not I and EcoR V sites of the pCMVSFORT 6 vector. Library
was normalized. Library was constructed by Life Technologies, a
division of Invitrogen. This sequence belongs to sequence cluster
                                                                                                                                                                                           BX345989
BX345989 Homo sapiens T CELLS (JURKAT CELL LINE) COT 10-NORMALIZED Homo sapiens clone CSODJ008YF12 5-PRIME, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    229 ACCTIGGCIGICCTCCTIGGAIIGAGIACCAGCAICACAAGCCTCCTITCACCAACCTC 288
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/clone_lih="Homo sapiens T_CELLS (JURKAT CELL LINE) COT
10-NORMALIZED"
202 ACCTIGGCTGTCCTCCTTGGATTGAGTACCAGCATCACAAGCCTCCTTTCACCAACCTC 261
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Bukaryota.

Bukaryota.

Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.

I (Bases I to 841).

Li, W.B.; Gruber,C.; Jessee,J. and Polayes,D.

Full-length cDNA libraries and normalization

On Dubblished (2001)

On May 5, 2003 this sequence version replaced gi:30377055.

Contact: Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="1st strand cDNA was primed with a NotI-oligo(dT) primer. Five prime end enriched, double-strand cDNA was digested with Not I and cloned into the Not I and ECOR V sites of the pCMVSPORT 6 vector. Library was normalized.
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BX345989.2 GI:46549776
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Query Match:
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BX345989
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/california, Berkeley) using ZAP-cDNA synthesis kit
/california, lerkeley library. | "RT (Life Technologies).
Note: this is a NIH_MGC Library. |
                                                                                                                                                                                                                         BG747760 808 bp mRNA linear EST 15-MAY-2001
602705255F1 NIH_MGC_43 Homo sapiens cDNA clone IMAGE:4842061 5',
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                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
Bukaryota; Metazoa; Chordata; Caraniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Primates; Cararrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDNA Library Preparation: Ling Hong/Rubin Laboratory CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can by found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
Plate: LLCNG155 row: n column: 14
High quality sequence stop: 808.
Location/Qualifiers
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Mismatches:
Indels:
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Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
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Best Local Similarity:
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AUTHORS
TITLE
JOURNAL
COMMENT
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BG747760
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/organism="Homo sapiens"
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//organism="Momba"
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//ord="Organ: brain (Joseph 1) Liberty constructed by Ling Homg in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-CDNA synthesis kit (Stratagene) and Superscript II RT (Life Technologies).
Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                          Elkaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

E 1 (bases 1 to 898)

E NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

L Umpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov

Tissue Procurement: ATCC

CDNA Library Preparation: Ling Hong/Rubin Laboratory

CDNA Library Preparation: Ling Hong/Rubin Laboratory

CDNA Library Arrayed by: The 1.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can be found through the 1.M.A.G.E. Consortium/LLNL at: image.llnl.gov

Plate: LLCM1025 row: h column: 08

High quality sequence stop: 721.
                                                                                                                    BF315757 898 bp mRNA linear EST 21-NOV-2000 601900828F1 NIH_MGC_19 Homo sapiens CDNA clone IMAGE:4129975 5',
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                                                                                                                                                           mRNA sequence.
BF315757
BF315757.1 GI:11264027
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Homo sapiens
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267 CAT 269
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                                                                                                      BF315757
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mineaes 1 to 889)

National Institutes of Health, Mammalian Gene Collection (MGC)

AL Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail.nin.gov

Tissue Procurement: Life Technologies, Inc.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Sequencing by: Incyte Genomics, Inc.

CLOME distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium(LLML)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLML at:

Location/Qualifies

1. 889

Location/Qualifies

Mol_type="mRNA"

Abost=="MRABS"

Anolymous pool of 24 week female lung, 16 week female bloes="Pillog"

Anoles="MRABS"

Anotes="Organ: pooled" lung and spleen; Vector: pcMV-SPORT6; Site=1: Not!; Site 2: EcoRV destroyed; RNA source anonymous pool of 24 week female spleens. Library is oligo-dT prime and directionally cloned (EcoRV site: size destroyed upon cloning). Average insert size 1.4 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 026. Note: this is a NIH_MGC Library."
                                                                                                                      BIS24031 889 bp mRNA linear EST 29-AUG-2001 603052202F1 NIH_MGC_122 Homo sapiens CDNA clone IMAGE:5201616 5', mRNA sequence.
BIS24031 GI:15348823
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Search completed: October 26, 2005, 15:17:27 Job time : 1069.43 secs

(OTARU) NNAJA BDAY 2:117

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October 26, 2005, 09:31:14 ; Search time 260.659 Seconds (without alignments) 1931.299 Million cell updates/sec
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| cgn2_6/ptodata/1/pubpna/USOT_NEW_PUB.seq:*
| cgn2_6/ptodata/1/pubpna/USOE_NEW_PUB.seq:*
| cgn2_6/ptodata/1/pubpna/USOE_PUBCOMB.seq:*
| cgn2_6/ptodata/1/pubpna/USOF_NEW_PUB.seq:*
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| cgn2_6/ptodata/1/pubpna/USOF_NEW_PUB.seq:*
| cgn2_6/ptodata/1/pubpna/USOF_PUBCOMB.seq:*
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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Maximum Match 100%
Listing first 45 summaries
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Fgapop 6.0 , Fgapext
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## SUMMARIES

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| 68.5<br>68.5<br>68.5<br>119.4<br>68.5<br>119.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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## ALIGNMENTS

RESULT 1
US-09-774-954-16
Squence 16, Application US/09774954
Publication No. US20040241645A1
Publication No. US20040241645A1
GENERAL INFORMATION:
TITLE OF INVERTION:
CORRESPONDENCE: 17
CORRESPONDENCE: 17
CORRESPONDENCE: ADDRESSE:
STREET: 1 DNA Way
CITY: South San Francisco
STREET: California
COUNTRY: USA

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316 CAT 318
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Pred. No.:
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RESULT 2
US-09-774-954-4
US-09-774-954
; Sequence 4, Application US/09774954
; Publication No. US20040241645A1
; Publication No. US20040241645A1
; Publication No. US20040261
; APPLICANT: Yang Wang, Michael W. Spellman TITLE OF INVENTION: O-Fucosyltransferase
; NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS: ;
; STREET: 1 DNA WAY
; STREET: 1 DNA WAY
; CITY: South San Francisco
STRATE: California
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Matches:
Conservative:
Mismatches:
Indels:
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Best Local Similarity:
Query Match:
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: 1BM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Winbatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFICATION DATA:
PRIOR APPLICATION DATA:
                                                                  Sequence 1, Application US/09774954
Publication No. US20040241645A1
GENERAL INFORMATION'
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
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Mismatches:
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PAPLICATION NUMBER: US/08/978,741
PILING DATE: 26-NOV-1997
APPLICATION NUMBER: 08/792,498
PILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: 19,044
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
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Matches:
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SEQUENCE DESCRIPTION: SEQ ID NO: 1:
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INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 1514 base_pairs
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STRANDEDNESS: Single
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353.00
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Best Local Similarity:
Query Match:
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                      RESULT 5
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Sequence 4751, Application US/10956157
Publication No. US20050118625A1
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
MULLS OF INVENTION: WILLIAM
TITLE OF INVENTION: HUMAN OSTEOARTHATIS AND HUMAN PROTEASES
FILE REFERENCE: 031896-04300 (Am 101081)
CURRENT APPLICATION NUMBER: US/10/956,157
CURRENT FILING DATE: 2004-10-04
NUMBER OF SEQ ID NOS: 319805
SOFTWARE: Patentin version 3.2
SEQ ID NO 4751
LENGTH: 1506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     179 TTTGGGAACCAGGCCGATCACTTCTTGGGCTCTCTGGCATTTGCAAAGCTGCTAAACCGT 238
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Matches:
Conservative:
Mismatches:
Indels:
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) ORGANISM: Homo sapiens
US-10-956-157-4751
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Best Local Similarity:
Query Match:
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Best Local Similarity:
Query Match:
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Pred. No.:
                                                         Alignment Scores
                                                                                   Pred. No.:
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MEDIUW TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: 18M PC compatible OPERATURS SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPetin (Genentech)

CURRENT APPLICATION DATA: US/O9/74,954
FILING DATE: 30-Jan-2001

CLASSIFICATION NUMBER: US/O9/74,954
FILING DATE: 26-NOV-1997

APPLICATION NUMBER: US/O9/39,741

FILING DATE: 31-JAN-1997

ATTORNEY/AGENT THOSMATION:
NAME: SYODOGA: CTAIG G

REGISTRATION NUMBER: 99,044

REFERENCE/DOCKET NUMBER: P1041P1

TELECOMMUNICATION UNMBER: 19,044

TELECOMMUNICATION UNMBER: 99,044

TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION: 5:
SEQUENCE CHRACATERISTICS

INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHRACATERISTICS
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Sequence 5. Application US/09774954
Publication No. US20040241645A1
GENERAL INFORMATION:
TITLE OF INVENTION: 0-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Geneauech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
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, NUMBER OF SEQ ID NOS: 319805
; SOFWHARE: Patentin version 3.2
; SEQ ID NO 4752
; LENGTH: 5218
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353.00
100.00%
100.00%
                                                                               ; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-956-157-4752
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Best Local Similarity:
Query Match:
DB:
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Publication No. US20050118625A1
GENERAL INFORMATION:
APPLICANT: Wyeth
APPLICANT: Worth
TITLE OF INVENTION:
TITLE OF INVENTION: NUCLEIC ACID ARRAYS FOR DETECTING GENE EXPRESSION ASSOCIATED WITH
TITLE OF INVENTION: HUMAN OSTEOARTHRITIS AND HUMAN PROTEASES
FITLE REPERENCE: 031896-043000 (AM 101081)
CURRENT APPLICATION NUMBER: US/10/956,157
CURRENT APPLICATION DATE: 2004-10-04
        US-10-101-822-168

US-10-301-822-168

Application No. US20030148410A1

Sequence 168, Application US/10301822

Publication No. US20030148410A1

SEQUENCE No. US20030148410A1

APPLICANT: Millennium Pharmaceuticals, Inc.

APPLICANT: Guilemette, Tracy L.

APPLICANT: Guilemette, Tracy L.

APPLICANT: Millennium Pharmaceuticals, Inc.

APPLICANT: Millennium Pharmaceuticals, Inc.

APPLICANT: Millennium Pharmaceuticals, Inc.

APPLICANT: Millennium Pharmaceuticals, Inc.

APPLICANT: Millennium Pharmaceuticals, Inc.

APPLICANT: Mondan, John E.

APPLICANT: Mondan, John E.

APPLICANT: Mondan, World GRNES, COMPOSITIONS, KITS, AND

TITLE OF INVENTION: NOVEL GRNES, COLON CANCER

TITLE OF INVENTION: NOVEL GRNES, COLON CANCER

TITLE OF INVENTION: MIRNERS, US, 10,10301,822

CURRENT FILING DATE: 2002-11-21

PRIOR FILING DATE: 2002-11-21

PRIOR FILING DATE: 2002-12-10

PRIOR FILING DATE: 2002-12-10

PRIOR FILING DATE: 2002-03-05

PRIOR FILING DATE: 2002-03-05

NUMBER OF SEQ ID NOS: 228

SOFTWARE FERRERCE

LENGTH S218

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Conservative:
Mismatches:
Indels:
Gaps:
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; LOCATION: (50) ...(1216)
US-10-301-822-168
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ORGANISM: Homo Sapiens
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Best Local Similarity: 1
Query Match:
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US-10-956-157-4752
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Pred. No.:
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURENT APPLICATION DATA:
APPLICATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFICATION - CURKNOWN>
PRIOR PAPPLICATION AUMBER: US/08/978,741
FILING DATE: 31-JAN-1997
APPLICATION NUMBER: 08/792,498
FILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
NAME: SYODOGA CRAIG G
RECISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: 39,044
REFERENCE/DOCKET NUMBER: 91041P1
TELECHMONICATION INFORMATION:
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TELECHMONICATION INFORMATION:
TELECHMONICATION SEQ ID NO: 7:
INFORMATION FOR SEQ ID NO: 7:
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Mismatches:
Indels:
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          Mismatches:
Indels:
Gaps:
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Publication No. US20040241645A1
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-FUCOSYltransferase
NUMBER OF SEQUENCES: 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSER: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
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TYPE: Nucleic Acid
STRANDEDNESS: Single
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61.76%
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Query Match:
DB:
     Best Local Similarity:
Query Match:
DB:
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TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLEIC ACID
TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLEIC ACID
TITLE OF INVENTION: DROSPHILA GENES.
FILE REPERENCE: CLOO0728
FILE REPERENCE: CLOO0728
CURRENT APPLICATION NUMBER: US/11/097,143
CURRENT PAPLICATION NUMBER: 60/157,832
PRIOR PILING DATE: 1999-10-09
PRIOR PILING DATE: 1999-10-19
PRIOR PILING DATE: 1999-10-19
PRIOR APPLICATION NUMBER: 60/160,191
PRIOR APPLICATION NUMBER: 60/161,932
PRIOR PILING DATE: 1999-11-12
PRIOR PILING DATE: 1999-11-12
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Matches:
Conservative:
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Matches:
Conservative:
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Indels:
Gaps:
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TYPE: Nucleic Acid

STRANDEDNESS: Single

TOPOLOGY: Linear

SEQUENCE DESCRIPTION: SEQ ID NO: 5:

US-09-774-954-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 18161, Application US/11097143
Publication No. US20050208558A1
GENERAL INFORMATION:
APPLICANT: Venter, J. Craig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2.25e-21
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ORGANISM: DROSOPHILA
US-11-097-143-18161
                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
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SEQ ID NO 18161
LENGTH: 1209
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Pred. No.:
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; TYPE: DNA
; ORGANISM: DROSOPHILA
US-11-097-143-18082
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Best Local Similarity:
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US-LI-097-143-18160/C

Sequence 18160, Application US/11097143

PUBLICANT: VENCAMATION: US200502085581

APPLICANT: Vencer, J. Craig

APPLICANT: Vencer, J. Craig

APPLICANT: Vencer, J. Craig

APPLICANT: Vencer, J. Craig

APPLICANT: Vencer, J. Craig

TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLEIC ACID

TITLE OF INVENTION: DROSOPHILA GENES.

TITLE OF INVENTION: DROSOPHILA GENES.

CURRENT FILING DATE: 1090-10-04

PRIOR PILING DATE: 1090-10-05

PRIOR PLING DATE: 1999-10-05

PRIOR PLING DATE: 1999-10-05

PRIOR PLING DATE: 1999-10-26

PRIOR PLING DATE: 1999-10-26

PRIOR PLING DATE: 1999-11-12

PRIOR PLING DATE: 1999-11-22

PRIOR PLING DATE: 1999-11-22

PRIOR PLING DATE: 1999-11-22

PRIOR PLING DATE: 1999-10-22

PRIOR PLING DATE: 2000-01-12-24

PRIOR PLING DATE: 2000-01-12-24

PRIOR PLING DATE: 2000-01-24

PRIOR PLING DATE: 2000-01-12-34

PRIOR PLING DATE: 2000-01-12-34

PRIOR APPLICATION NUMBER: 60/164,631

PRIOR PLING DATE: 2000-01-12-34

PRIOR APPLICATION NUMBER: 60/191,637

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PRIOR APPLICATION NUMBER: 60/191,637

PRIOR PLING DATE: 2000-01-12-34

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PRIOR PLING DATE: 2000-01-12-34

PRIOR APPLICATION NUMBER: 60/164,831

PRIOR PLING DATE: 2000-01-12-34

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PRIOR APPLICATION NUMBER: 60/164,769

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2063 CCTGGGATCATTGGCCTTCGCCAAGGCGCTTAATCGCACCCTGATCCTGCCGCGTGGGT 2004
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-----GlyArgPheGlyAsnGlnAlaAspHisPh
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2003 GGAGTATCGT 1994
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US-11-097-143-18082/c
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Sequence 18082, Application US/11097143
PUDIcation No. US20050208558A1
GREERAL INFORMATION:
APPLICANT: Venter, J. Craig
APPLICANT: Venter, J. Craig
TITLE OF INVENTION: BETECTION KIT, SUCH AS NUCLEIC ACID
TITLE OF INVENTION: ARRAYS, FOR DETECTING EXPRESSION OF 10,000 OR MORE
TITLE OF INVENTION: ARRAYS, FOR DETECTING EXPRESSION OF 10,000 OR MORE
TITLE OF INVENTION: ARRAYS, FOR DETECTING EXPRESSION OF 10,000 OR MORE
TITLE OF INVENTION: ARRAYS, FOR DETECTING EXPRESSION OF 10,000 OR MORE
TITLE OF INVENTION: ARRAYS, FOR DETECTING EXPRESSION OF 10,000 OR MORE
TITLE OF INVENTION NUMBER: 06/15,832
PRIOR PLICATION NUMBER: 60/160,191
PRIOR PLICATION NUMBER: 60/160,191
PRIOR PLICATION NUMBER: 60/161,932
PRIOR PLICATION NUMBER: 60/164,769
PRIOR PLING DATE: 1999-11-12
PRIOR PLING DATE: 1999-11-12
PRIOR PLING DATE: 1999-11-228
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PRIOR PLING DATE: 2000-01-12
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PRIOR APPLICATION NUMBER: 60/184,831
PRIOR PLING DATE: 2000-01-12
PRIOR APPLICATION NUMBER: 60/194,831
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US-09-925-065A-602444/c
Sequence 602444 Application US/09925065A
Publication No. US20050228172A9
GENERAL INFOMMATION:
TITLE OF INVENTION: Identification and Mapping of Single
TITLE OF INVENTION: Nucleotide Polymorphisms in the Human Genome
TITLE REFERENCE: 108827.135
CURRENT APPLICATION NUMBER: US/09/925,065A
CURRENT FILING DATE: 2001-08-08
PRIOR APPLICATION NUMBER: US 60/243,096
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Mismatches:
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495 GGAGTATCGT 486
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Alignment Scores:
Pred. No.:
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US-10-820-474A-236

Sequence Caguence Caguence Caguence Caguence Caguence Cablication No. US20050155089A1

GENERAL INFORMATION:
APPLICANT: TANG, Y. TOM
APPLICANT: GORGONE, GINA A.
APPLICANT: GORGONE, GINA A.
APPLICANT: GUGGER, KARL J.
APPLICANT: BAUGHN, MARIAH R.
APPLICANT: ALFERSON, CHANDRA
APPLICANT: ALFERSON, CHANDRA
APPLICANT: AUG. HENRY
APPLICANT: HILLMAN, JENNIFER L.
APPLICANT: HILLMAN, JENNIFER L.
APPLICANT: HILLMAN, JENNIFER L.
APPLICANT: HILLMAN, JENNIFER L.
APPLICANT: PATTERSON, CHANDRA
APPLICANT: HILLMAN, JENNIFER L.
APPLICANT: PATTERSON, CHANDRA
APPLICANT: HILLMAN, JENNIFER L.
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APPLICANT: HILLMAN, JENNIFER L.
APPLICANT: HILLMAN, JENNIFER L.
APPLICANTON NUMBER: 60/090, 762
PRIOR APPLICATION NUMBER: 60/094, 983
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Mismatches:
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NAMB/KEY: misc_feature
OTHER INFORMATION: Incyte Clone No: 1647884
PRIOR FILING DATE: 2000-10-24
PRIOR APPLICATION NUMBER: US 60/252,147
PRIOR FILING DATE: 2000-11-20
PRIOR FILING DATE: 2000-11-30
PRIOR FILING DATE: 2000-11-30
PRIOR PILING DATE: 2001-01-16
PRIOR APPLICATION NUMBER: US 60/261,766
PRIOR APPLICATION NUMBER: US 60/261,766
PRIOR APPLICATION NUMBER: US 60/289,846
PRIOR FILING DATE: 2001-05-09
NUMBER OF SEQ ID NOS: 957086
SOFTWARE: PASTSEQ FOR WINDOWS VETSION 4.0
SEQ ID NO 602444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps:
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100.00$
95.00$
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ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA; ORGANISM: Homo sapiens
US-09-925-065A-602444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
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Pred. No.:
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| Sequence 9419, Application Us/09864761 |
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| Sequence 9419, Application Us/09864761 |
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| Sequence 9419, Application Us/09864761 |
| Sequence 9419, Application Us/09864761 |
| Application Penn, Silarron G. |
| Application Penn, Silarron G. |
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| Application T. |
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| Sequence 9419, Application General Teach Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Co
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SOFTWARE: Annomax Sequence Listing Engine vers. 1.1
Length:
Matches:
Conservative:
Mismatches:
Indels:
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FEATURE:
OTHER INFORMATION: MAP TO AC004624.6
                                       120.00
100.00%
95.00%
33.99%
                                                            Percent Similarity:
Best Local Similarity:
Query Match:
DB:
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27 ------HisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsn 39
OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 2.2
OTHER INFORMATION: EXPRESSED IN HERARY, SIGNAL = 2.3
OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 4.3
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OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 1.3
OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 1.9
OTHER INFORMATION: EXPRESSED IN PETAL LIVER, SIGNAL = 4.4
US-09-864-761-9418
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21
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18
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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41.18%
30.88%
25.50%
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Score:
Percent Similarity:
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Search completed: October 26, 2005, 16:00:15 Job time: 272.326 secs

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Title: Perfect score:

Sequence:

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Scoring table:

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Sequence 60, Arr
Sequence 16041, A
Sequence 84839, A
Sequence 84839, A
Sequence 84830, A
Sequence 13358, A
Sequence 2, Appli
Sequence 1, Appli
Sequence 12216, A
Sequence 14021, A
Sequence 10, Appl
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Sequence 17224, A
Sequence 16800, A
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COMPUTER: 13.5 inch, 1.44 Mb floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARTS: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-No. 6100076-1997
CLASSIFICATION: APPLICATION DATA:
APPLICATION WHERE: 08/792498
FILING DATE: 31
ATTORNEY/AGENT INFORMATION:
NAME: SVODOGA, Craig G.
REGISTRATION NUMBER: 91041P1
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
SEQUENCE CHARACTERISTICS:
              3 US-09-103-840A-1

3 US-09-103-840A-1

3 US-09-940-016-14021

US-09-949-016-14021

US-08-949-016-14021

US-08-139-00899-10

US-08-138-151-1

US-08-208-898A-1

US-08-218-151-1

US-08-218-151-1

US-08-218-151-1

US-08-218-151-1

US-08-218-151-1

US-08-218-15-1

US-08-218-11-2

US-08-273-411-2

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US-08-675-773B-3

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US-08-949-016-16800

US-09-949-016-16800

US-09-949-016-168139

US-09-949-016-184840

US-09-949-016-11852

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US-09-949-016-11852
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; Patent No. 6100076
; GENERAL INFORMATION:
    TITLE OF INVENTION: O-Fucosyltransferase
    NUMBER OF SEQUENCES: 17
    CORRESPONDENCE ADDRESS:
    ADDRESSEE: Generiech, Inc.
    STREET: 1 DNA Way
    CITY: South San Francisco
    STATE: California
    COUNTRY: USA
                                                                            999
11136
11155
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33373
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COMPUTER READABLE FORM:
                                                                                                           US-08-978-741-16
                                                65.5
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-MODEL=frame+ pln.model -DEV=xlh

-MODEL=frame+ pln.model -DEV=xlh

-Geral 1/USFTO spool h/US09774954/runat 25102005 105433 6415/app query.fasta_1.917

-Geral 1/USFTO spool h/US097749554/runat 25102005 105433 6415/app query.fasta_1.917

-DE-ISSTE NA -QFMT=fastap -SUPFIX=rni -MINMATCH=0.1 -LOOPGL=0

-LIST=45 -DOCALIGN=200 -THR SCORE=pct -THR MAX=100 -THR MIN=0 -ALIGN=15

-MODE=LOCAL -OUTPMT=pto -NORM=ext -HEAPSIZE=500 -THR MIN=0 -MAXLEN=200000000

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-NO MARP -LARGEQUERY -NEG_SCORE=s0 -WAIT -DSPBLOCK=100 -LONGLOG

-DEV TIMEOUT=120 -WARN TIMEOUT=30 -THRENS=1 -XGAPDP=10 -XGAPEXT=0.5 -FCAPOP=6

-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
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Sequence 16, Appl
Sequence 6, Appli
Sequence 1, Appli
Sequence 2, Appli
Sequence 5, Appli
Sequence 7, Appli
Sequence 7, Appli
Sequence 8, Appli
Sequence 12127, Aspli
Sequence 12127, Aspli
Sequence 12127, Aspli
Sequence 12127, Aspli
                                                                                                             October 26, 2005, 08:18:39 ; Search time 53.4846 Seconds (without alignments) 1866.199 Million cell updates/sec
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                                                                                                                                                                                                            1 MPAGSWDPAGYLLYCPCMGR.....LAVPPWIEYQHHKPPFTNLH
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11: /cgn2_6/ptodatea1/ina/5A_COMB.seq:*
12: /cgn2_6/ptodatea1/ina/5B_COMB.seq:*
3: /cgn2_6/ptodatea1/ina/6A_COMB.seq:*
4: /cgn2_6/ptodatea1/ina/6B_COMB.seq:*
5: /cgn2_6/ptodatea1/ina/PcTUS_COMB.seq:*
6: /cgn2_6/ptodatea1/ina/PcTUS_COMB.seq:*
                      GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                   nucleic search, using frame_plus_p2n model
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US-09-333-729A-16
US-09-333-729A-6
US-09-333-729A-6
US-08-978-741-1
US-09-333-729A-2
US-08-978-741-7
US-09-978-741-7
US-09-333-729A-8
US-09-349-016-12127
US-09-949-016-12127
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                                                                                                                                                                                                                                                                                                                                      1202784 seqs, 818138359 residues
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Maximum Match 100%
Listing first 45 summaries
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Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
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Maximum DB seq length: 200000000
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                                                                                                                                                                                     1 ATGCCCGCGGGGCTCCTGGGACCCGGCCGGTTACCTGCTCTACTGCCCCTGCATGGGGGGC
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Matches:
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Matches:
Conservative:
Mismatches:
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                                                                                                                                                     US-09-774-954-9 (1-61) x US-08-978-741-16 (1-1100)
                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Wang, Yang
APPLICANT: Wang, Yang
APPLICANT: Wang, Yang
APPLICANT: Spellman, Michael W.
1TILE OF INVENTION: O-Fucosyltransferase
FILE REFERENCE: P1041P1D1-Substitute
CURRENT APPLICANTON NUMBER: US/99/313,729A
CURRENT FILING DATE: 1999-06-15
PRIOR RELING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
SEQ ID NO 16
SEQ ID NO 16
LENGTH: 1100
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US-09-333-729A-16
Sequence 16, Application US/09333729A
Patent No. 62709B7
GENERAL INFORMATION:
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100.00%
100.00%
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353.00
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LENGTH: 1100 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Single
TOPOLOGY: Linear
US-08-978-741-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
CORGANISM: Homo Sapien
US-09-333-729A-16
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Best Local Similarity:
Query Match:
DB:
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ZIP: 94080
ZIP: 94080
ZUP: 94080
ZUP: 94080
ZUDUM TYPE: 3.5 innh, 1.44 Mb floppy disk COMPUTER READABLE FORM:
COMPUTER: 1BM PC compatible
COMPUTER: 1BM PC compatible
COMPUTER: 1BM PC compatible
COMPUTER: 1BM PC compatible
COMPUTER: 1BM PC compatible
COMPUTER: 1BM PC compatible
COMPUTER: 1BM PC compatible
COMPUTER: 1BM PC compatible
APPLICATION NOWBER: US/08/798,741
FILING DATE: 26-No. 6100076-1997
CLASSIFTCATION: 435
FILING DATE: 30-No. 6100076-1997
ATTORNEY AGENT INFORMATION:
NAME: SVODOGA, CEAIG G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: PP.041P1
TELEPHONE: 650/225-1489
TELEPHONE: 650/225-1489
TELEPRA: 650/225-1881
INPORMATION FOR SEQ ID NO: 4:
ELENGTH: 1300 base pairs
TYPE: NACIACA AGIG
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Matches:
Conservative:
Mismatches:
Indels:
; Sequence 4, Application US/08978741
; Sequence 4, Application US/08978741
; Patent No. 6100076
; GENERAL INFORMATION:
; TITLE OF INVENTION: O-FUCOSYLTANSFerase
; NUMBER OF SEQUENCES: 17
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA WAY
; CITY: South San Francisco
; STREET: 4 South San Francisco
; STREET: USAN FRANCISCO
; STREET: USAN FRANCISCO
; STREET: 1 DNA WAY
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Best Local Similarity: 1
Query Match: 1
DB:
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316 CAT 318
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APPLICATION NUMBER: 08/792498
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DB:
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Matches:
Conservative:
Mismatches:
Indels:
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; Patent No. 6100076
; GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: O-FUCOSyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-774-954-9 (1-61) x US-09-333-729A-6 (1-1300)
                                                                          GENERAL INFORMATION:
APPLICANT: Wang, Yang
APPLICANT: Wang, Yang
APPLICANT: Spellman, Michael W.
TILLE OF INVENTION: O-FUCOSyltransferase;
FILE REFERENCE: P1041P1D1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT FILING DATE: 1999-06-15
PRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
SEQ ID NO 6
LENGTH: 1300
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NO. 6100076-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                    US-09-333-729A-6; Sequence 6, Application US/09333729A; Patent No. 6270987
                                                                                                                                                                                                                                                                                                                                                    , OTHER INFORMATION: Plasmid insert. US-09-333-729A-6
                                                                                                                                                                                                                                                                                                 TYPE: DNA ORGANISM: Artificial Sequence
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COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 incl
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Best Local Similarity:
Query Match:
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Pred. No.:
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21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsnArg
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Matches:
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Mismatches:
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Mismatches:
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Gaps:
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FILING DATE: 31
ATTONEY/AGART INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET WINBER: P1041P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/255-1489
TELEPHONE: 650/252-9881
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 1514 base pairs
TYPE: NUCleic Acid
STRANDEDNESS: Single
TOPOLOGY: Linear
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ORGANISM: Homo Sapien
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Best Local Similarity:
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|81 CAT 183
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4296 TITGGGAACCAGGCCGAICACTTCTTGGGCTCTCTGGCATTTGCAAAGCTGCTAAACCGT 4355
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Patent No. 6703491

GENERAL INFORMATION:
APPLICANT: Homburger et al.
TITLE OF INFORMATION:
FILE REFRENCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767

CURRENT FILING DATE: 1999-03-17

NUMBER OF SEQ ID NOS: 62517

SOFTWARE PATENTIN Ver. 2.0

SEQ ID NO 14353

LENGTH: 1320
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NEGOLI 19
NEGOLI 19
Sequence 7, Application US/08978741
Patent No. 6100076
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INTERNION: O-FUCOSYltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE STREET: 1 DNA Way
CITY: South San Francisco
STREET: 1 DNA Way
CITY: South San Francisco
STREET: 3 South San Francisco
CONTRY: USA
ZIP: 94080
MEDIUM TYPE: 13.5 inch, 1.44 Mb floppy disk
COMPUTER: 18M PC compatible
COMPUTER: 18M PC COMPATE: 18M PC COMPATE: 18 PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPATE: 18M PC COMPAT
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Indels:
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; ORGANISM: Drosophila melanogaster
US-09-270-767-14353
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US-09-270-767-14353
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      21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsnArg 40
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Matches:
Conservative:
Mismatches:
Indels:
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COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: 18M PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOCTWARB: WinPatin (Genentech)
CURRENT APPLICATION DATA: APPLICATION NUMBER: 10/09/978,741
FILING DATE: 26-NO. 610076-1997
CLASSIFICATION: 435
PRIOR APPLICATION NUMBER: 08/792498
FILING DATE: 3108/792498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Second No. 6100006

Patent No. 6100006

Patent No. 6100006

TITLE OF INVENTION:
TITLE OF INVENTION: O-Rucosyltransferase

NUMBER OF SEQUENCES: 17

CORRESPONDENCE ADDRESS:
ADDRESSES Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-774-954-9 (1-61) x US-08-978-741-5 (1-11284)
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INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 11284 base pairs
TYPE: Nucleic Acid
STRANBEDNESS: Single
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TOPOLOGY: Linear
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Percent Similarity:
Best Local Similarity:
Query Match:
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Best Local Similarity:
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Query Match:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 AACCAGGCCGATCACTTCTTGGGCTCTCTGGCATTTGCAAAGCTGCTAAACCGTACCTTG
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APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-Pucosyltransferase
FILE REFERENCE: P1041P1D1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT FILING DATE: 1999-06-15
PRIOR PILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
SEQ ID NO 8
LENGTH: 5009
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  FILING DATE: 26-No. 6100076-1997
CLASSIFICATION: 435
PRIOR APPLICATION UNDER: 31
ATORNEY AGENT INFORMATION:
ATORNEY AGENT INFORMATION:
NAME: S'VODOGA, Craig G.
REGISTRATION NUMBER: 39,044
REFRENCE/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION OF TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION OF TELEFONE: 650/225-1489
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Patent No. 6270987
GENERAL INFORMATION:
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ORGANISM: Homo Sapien
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Sequence 16285, Application US/09949016
; Betent No. 6812339
; GENERAL INFORMATION:
    APPLICANT: VENTER,
    TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
; TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
; TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
; TURENT PILLIGATION NUMBER: US/09/949,016
; CURRENT FILING DATE: 2000-04-14
; PRIOR APPLICATION NUMBER: 60/241,755
; PRIOR APPLICATION NUMBER: 60/237,768
; PRIOR APPLICATION NUMBER: 60/237,768
; PRIOR APPLICATION NUMBER: 60/231,498
; PRIOR PILLING DATE: 2000-10-03
; PRIOR PILLING DATE: 2000-0-0-08
; NUMBER OF SEQ ID NOS: 2007012
; SQPTWARE: PASESEQ for Windows Version 4.0
; SEQ ID NO 16285
RESULT 11
US-09-949-016-12127/c

j Gequence 12127, Application US/09949016

g Gequence 12127, Application US/09949016

g Requence 12127, Application US/09949016

g TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE REPERENCE: CL001307

CURRENT FILING DATE: 2000-04-14

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR PLING DATE: 2000-10-20

PRIOR APPLICATION NUMBER: 60/231,498

PRIOR PLING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE FASTSEQ for Windows Version 4.0

SEQ ID NO 1227
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; OTHER INFORMATION:
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US-09-103-840A-2
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US-09-103-440A-2

Sequence 2, Application US/09103840A

Sequence 2, Application US/09103840A

Sequence 2, Application US/09103840A

Sequence 2, Application US/09103840A

Sequence 2, Application US/09103840A

GENERAL INFORMATION:
APPLICANT: FIEISCHMAN, Robert D.
APPLICANT: WINTER, OWEN R.
APPLICANT: WINTER, OWEN R.
TITLE OF INVENTION: THERRULICOSIS
FILE REFERENCE: 24366-20007. OWEN PRINTER OF SEQ ID NOS: 2

CURRENT APPLICATION NUMBER: US/09/103,840A

NUMBER OF SEQ ID NOS: 2

SOFTWARE: Patentin Ver. 2.1

LENGTH: 4403765
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ORGANISM: Mycobacterium tuberculosis
FEATURE:
OTHER INFORMATION: CDC 1551
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; Sequence 1, Application US/09103840A
; Patent No. 6294328
; GENERAL INFORMATION:
    APPLICANT: FIEISCHWAN, Robert D.
    APPLICANT: FIEISCHWAN, Robert D.
    APPLICANT: FRASER, Claire M.
    APPLICANT: FRASER, Claire M.
    APPLICANT: FRASER, Claire M.
    APPLICANT: PRASER, .
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"n" bases at various positions throughout the sequence represent a, t, c or \boldsymbol{g}
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Aak52494 Human pol Aab113947 Drosophil Ab113946 Drosophil Ab113994 Drosophil Aaz98210 Human sig Aaz98210 Human sig Aaz18210 Probe #18 Aaz18211 Probe #18 Aba76618 Human foe Aba63761 Human foe Aba63761 Human foe Aba63761 Probe #12 Aba1126 Probe #12 Aba1126 Probe #19 Aba1126 Human bon Aak51260 Human bon Aak5254 Human bra Aak12254 Human bra Aak12254 Human bra Abs37615 Human bra Abs37615 Human liv Abs24798 Human gen

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O-fucosyltransferase; epidermal growth factor; EGF; glycosylation;
O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "this actively expressed O-fucosyltransferase sequence is claimed for in claim 9"
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/product= "human heart O-fucosyltransferase"
                                                                                                                                                                                                                                                                                                                                                                                                                   Human heart O-fucosyltransferase encoding DNA
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ACA38576
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                    4 ABL13946
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AAK12275
ABS37615
ABS50816
ABS24798
ABS11999
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AAK51260
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AAQ98461
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1. .1100
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Adf81754 Leukaemia
Aav65633 Plasmid c
Aak51510 Human pol
                                                      October 26, 2005, 03:15:37 ; Search time 170.85 Seconds (without alignments) 2113.573 Million cell updates/sec
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Copyright (c) 1993 - 2005 Compugen Ltd.
                                       nucleic search, using frame_plus_p2n model
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AAV65633
AAK51510
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Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
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Мо. Result

Abd32843 Human can Abn59850 Novel hum Aat01082 2-Alpha-f Aaq98461 GDP-L-fuc

Ach91620 Human gen Abd32602 Human can Ab109670 Drosophil Abx45469 Bovine ES Abx41524 Bovine ES

Abx41524 Bovine ES Aca38576 Prokaryot Aca40300 Prokaryot Continuation (3 of Continuation (3 of

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                                                                                                                                                                                       This DNA encodes a human heart O-fucosyltransferase that can glycosylate an epidermal growth factor (ESP) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-fucosyltransferase
                                                                                                                       Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving overexpression of the enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tumour-associated antigenic target (TAT) cDNA DNA326813, SEQ 1D NO:5725.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                         21 PheGlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsnArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tumour-associated antigenic target; TAT; human; overexpression; ct tumour; diagnosis, cell proliferative disorder; breast cancer; colorectal cancer; lung cancer; ovarian cancer; liver cancer; central nervous system cancer; bladder cancer; pancreatic cancer; certical cancer; melanoma; leuksemia; hybridisation probe; chromosome identification; chromosome mapping; gene mapping; gene therapy; cytostatic; gene; ss.
                                                                                                                                                                                                                                                                                                       Sequence 1514 BP; 320 A; 435 C; 411 G; 348 T; 0 U; 0 Other;
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                                                                                                                                                                   Claim 9; Fig 12A; 90pp; English.
         97US-00792498.
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                                           (GETH ) GENENTECH INC.
                                                                Spellman MW;
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P-PSDB; AAW80571.
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Best Local Similarity:
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          31-JAN-1997;
26-NOV-1997;
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The invention relates to human tumour-associated antigenic target (TAT) polypeptides and their related nucleic acids. The TAT polypeptides are overexpressed in cancer tissues compared to normal tissues, and may thus serve as effective targets for the diagnosis and treatment of cancer in mammals. The invention also relates to nucleic acid and polypeptide sequences at least 80% identical to the TAT nucleic acids and polypeptides expression vectors and host cells comprising a TAT nucleic acid, an antibody specific for a TAT polypeptide; and methods and compositions for the treatment or molecule which binds to a TAT polypeptide; tusion proteins comprising a TAT nucleic acid, an antibody and enthods and compositions for the treatment or diagnosis of cancer in mammals. TAT polypeptides, nucleic acids, antibodies, antigonists, binding molecules and compositions are useful for diagnosis of treating a cell proliferative disorder associated with increased TAT expression, particularly cancers such as breast cancer, lung cancer, lung cancer, cancer, such as breast cancer, colorected cancer, lung cancer, oranian cancer, lung cancer, cancer, cancer, lung cancer, cancer, cancer, lung cancer, cancer, cancer, useful cancer, cancer, cancer, cancer, useful cancer, cancer, cancer, lung cancer, cancer, cancer, useful expension and leukaemia. TAT nucleic acids may further be cured as Mybridiation probes, in chromosome and gene mapping, in chromosome identification and in gene thorapy. The present sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New tumor-associated antigenic target polypeptides and nucleic acids, useful in preparing a medicament for treating or detecting a proliferative disorder, e.g. breast, lung, colorectal, ovarian or
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                                                                                                                                                                                                                                                                     (GETH ) GENENTECH INC
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P-PSDB; ABM82223.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention relates to a method (M1) for determining the subtype of leukaemia cells and whether a patient sample contains leukaemia cells. The method comprises determining the expression profile of a group of markers in a patient sample. The method is useful for determining the presence of leukaemia cells, its types or subtypes, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Determining the subtype of leukemia cells and whether a patient sample contains leukemia cells or other cells, useful for treating leukemia, comprises determining the expression profile of a group of markers in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MetProAlaGlySerTrpAspProAlaGlyTyrLeuLeuTyrCysProCysMetGlyArg
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                                                                                                                                                                                                                                           Cytostatic; Gene therapy; leukaemia; ss
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                                                                                                                                                                                    Leukaemia-related DNA sequence #2310.
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(UYLU-) UNIV LUDWIG MAXIMILIANS.
(HAFE) HAFRELACH T.
(SCHO/) SCHOCH C.
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Eils R, Brors B, Mergenthaler S;
                      ADF81754 standard; DNA; 5266 BP
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the expression of human heart O-fucosyltransferase. The human O-fucosyltransferase can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated o-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          this represents the nucleotide sequence of the plasmid construct used for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving overexpression of the enzyme.
                                                                                                                                                                                                                                                /______insert coding for human O-fucosyltransferase."
4218. .4235
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/note= "polyhistidine tag"
                                                                                                                                     88.
                                                                                                                    O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart;
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                                                                                          Plasmid construct for expression of human O-fucosyltransferase
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        AAV65633 standard; DNA; 11284 BP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P-PSDB; AAW80573.
                                                                                                                                                                   Homo sapiens.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                     17-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                31-JAN-1997;
26-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores:
                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                            WO9833924-A1
                                                                 16-DEC-1998
                                                                                                                                                                                                                                                                                                                                                         06-AUG-1998
                                     AAV65633;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match:
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AAV65633
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US-09-774-954-9 (1-61) x AAV65633 (1-11284)

Page

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Nucleic acids encoding polypeptides with cytokine-like activities, useful in diagnosis and gene therapy.
(AAX52582) and 3666 (AAM80020) are omitted as the relevant pages from the sequence listing were missing at the time of publication
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human, cytokine, cell proliferation, cell differentiation, gene therapy, vaccine, peptide therapy, stem cell growth factor, haematopoiesis, tissue growth factor, immunomodulatory, cancer, leukaemia, nervous system disorder; arthritis; inflammation, ss.
                                                                                                                                                                                                                   7 AspProAlaGlyTyrLeuLeuTyrCysProCysMet-------GlyArgPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xu C, Cao Y;
, Chen R, Wang
                                          Sequence 5230 BP; 1285 A; 1255 C; 1330 G; 1360 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Liu C, Drmanac RT, Asundi V, Zhou P, X
nao QA, Wang D, Wang J, Zhang J, Ren F,
Yang Y, Wejhrman T, Goodrich R;
                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 1; Page 4424-4425; 6221pp; English
                                                                                                                                                                                       US-09-774-954-9 (1-61) x AAK51510 (1-5230)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human polynucleotide SEQ ID NO 2023.
                                                                                                                                                                                                                                                                                                                                                                                                                      AAK52494 standard; cDNA; 4850 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        03-FEB-2000; 2000US-00496914.
27-AFR-2000; 2000US-00560875.
19-UUJ-2000; 2000US-00598075.
19-EBP-2000; 2000US-00630325.
15-SEP-2000; 2000US-0063561.
20-CT-2000; 2000US-0063325.
30-NOV-2000; 2000US-0058422.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              05-FEB-2001; 2001WO-US004098
                                                                                  1.87e-21
241.50
81.67%
76.67%
68.41%
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P-PSDB; AAM79361.
                                                                                                                Percent Similarity:
Best Local Similarity:
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Ma Y, Zhao QA, V
Xue AJ, Yang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200157190-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-NOV-2001
                                                                         Alignment Scores:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAK52494;
                                                                                                                                           Query Match:
DB:
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                                                        41 ThrLeualaValProProTrpileGluTyrGlnHisHisLysProProPheThrAsnLeu 60
                   4236 ATGCCCGCGGGCTCCTGGGACCCGGCTGGTTACCTGCTCTACTGCCCCTGCATGGGGCGC 4295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to polynucleotides (AAK51456-AAK53435) and the encoded polypeptides (AAM78323-AAM80302) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopoiesis regulating activity and may be useful in the diagnosts and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: Records for SEQ ID NO 2110 (AAK52581), 2111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nucleic acids encoding polypeptides with cytokine-like activities, useful in diagnosis and gene therapy.
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                                                                                                                                                                                                                                                                                                                                                                         Human, cytokine, cell proliferation, cell differentiation, gene therapy, vaccine, peptide therapy, stem cell growth factor; haematopoiesis, tissue growth factor; immunomodulatory, cancer; leukaemia; nervous system disorder; arthritis; inflammation, ss.
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   1 MetProAlaGlySerTrpAspProAlaGlyTyrLeuLeuTyrCysProCysMetGlyArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tang YT, Liu C, Drmanac RT, Asundi V, Zhou P, Xu C, Cao Y;
Ma Y, Zhao QA, Wang D, Wang J, Zhang J, Ren F, Chen R, Wang
Xue AJ, Yang Y, Wejhrman T, Goodrich R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; Page 638-642; 6221pp; English.
                                                                                                                                                                                                                                                                                                                                                Human polynucleotide SEQ ID NO 55.
                                                                                                                                                                                                                                                               AAK51510 standard; cDNA; 5230 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-FEB-2000; 2000US-00496914.
27-AFR-2000; 2000US-00560875.
20-UUN-2000; 2000US-00590075.
19-UUL-2000; 2000US-0064936.
15-SEP-2000; 2000US-0064936.
20-CT-2000; 2000US-0063325.
30-NOV-2000; 2000US-00728422.
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                                                                                                                                                                                                                                                                                                                      06-NOV-2001 (first entry)
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                                                                                                                                                                                                      4416 CAT 4418
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                                                                                                                                                                          61 His 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200157190-A2
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ZW;

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The invention relates to polymucleotides (AAKS1456-AAKS3435) and the encoded polypeptides (AAM78323-AAM80302) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polymptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, nematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activin/inhibin activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: Records for SEQ ID NO 2110 (AAKS2581) and 3666 (AAM80020) are omitted as the relevant pages from the sequence listing were missing at the time of publication
                      88666666666666888
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Sequence 4850 BP; 1142 A; 1218 C; 1244 G; 1246 T; 0 U; 0 Other;

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279
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                                                                                                      21
                                                                                                                                             22 GlyAsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLyBLeuLeuAsnArgThr 41
                                                                                                    LeualaValProProTrpileGluTyrGlnHisHisLysProPheThrAsnLeuHis
       Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                 US-09-774-954-9 (1-61) x AAK52494 (1-4850)
        6.85e-20
229.50
80.00%
73.33%
65.01%
                              Percent Similarity:
Best Local Similarity:
Alignment Scores:
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                                                    Query Match:
          Pred. No.:
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RESULT 7

Drosophila melanogaster expressed polynucleotide SEQ ID NO 36323. Drosophila; developmental biology; cell signalling; insecticide; ABL13947 standard; cDNA; 1209 (first entry) pharmaceutical; gene; ss Drosophila melanogaster. WO200171042-A2 26-MAR-2002 ABL13947; ABL13947 

23-MAR-2001; 2001WO-US009231 27-SEP-2001

23-MAR-2000; 2000US-0191637P. 11-JUL-2000; 2000US-00614150. (PEKE ) PE CORP NY

WPI; 2001-656860/75. P-PSDB; ABB69844. Adams M, Venter JC,

<u>Е</u> Myers

PWD,

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New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell interactions.

Example 1; Fig 11; 90pp; English

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The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention is useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL16175) and the encoded proteins (ABB57737-ABB72072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                           27 HisPheleuGlySerLeuAlaPheAlaLysLeuLeuAsnArgThrLeuAlaValProPro 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart; se
                                                                                                                                                                                                                                                                                                                                                                                           7 AspproAlaGlyTyrLeuLeuTyrCysProCysMetGlyArgPheGlyAsnGlnAlaAsp
                                                                                                                                                                                               Sequence 1209 BP; 302 A; 313 C; 307 G; 287 T; 0 U; 0 Other;
Claim 1; SEQ ID NO 36323; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          First EcoRl nucleotide fragment of human KIAA0180.
                                                                                                                                                                                                                                                                              Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                               Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                            US-09-774-954-9 (1-61) x ABL13947 (1-1209)
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223.00
91.11$
84.44$
63.17$
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        202 TGGGTGGAGTATCGT 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      47 TrpileGluTyrGln 51
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                                                                                                                                                                                                                                                                                   Percent Similarity:
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                                                                                                                                                                                                                                                                                                                  Query Match:
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This represents a first EcoR1 nucleotide fragment of human KIAA0180. This 5009 basepairs partial cDNA encodes for a protein of unknown function from myeblast celline KG-1. The invention provides a human heart 0-fucosyltransferase that can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated 0-fucosy readule. Inhibitors of 0-fucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of 0-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for 0-fucosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention is
                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 AACCAGGCCGATCACTTCTTGGGCTCTCTGGCATTTGCAAAGCTGCTAAACCGTACCTTG 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New isolated nucleic acid detection reagent for detecting 1000 or more
genes from Drosophila and for elucidating cell signaling and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                      23 AsnGlnAlaAspHisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsnArgThrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Drosophila melanogaster expressed polynucleotide SEQ ID NO 36320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Drosophila, developmental biology; cell signalling; insecticide; pharmaceutical; gene; ss.
                                                                                                                                                                                                                                Sequence 5009 BP; 1235 A; 1195 C; 1268 G; 1311 T; 0 U; 0 Other;
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339
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Matches:
Conservative:
Mismatches:
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11-JUL-2000; 2000US-00614150.
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218.00
100.00$
100.00$
61.76$
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2001-656860/75.
P-PSDB; ABB69843.
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                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
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                                                                                                                                                                                                                                                                Alignment Scores:
Pred. No.:
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Query Match:
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2183 GATCCCAATGGCTACCTCACTACTGTCGTGTATGGGTAAGTTTCACTTGGAAGCAACC 2124
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                                                                                                                                                                                                                                                                                                                                                                                                                                          28 eLeuGlySerLeuhlaPheAlaLysLeuLeuhsnArgThrLeuhlaValProProTrpl1 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                            useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL016176-ABL30511), expressed DNA sequences (ABL01840-ABL16175) and the encoded proteins (ABBS7737-BBT3020). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIFO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                               -----GlyArgPheGlyAsnGlnAlaAspHisPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drosophila melanogaster expressed polynucleotide SEQ ID NO 36164.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                      Sequence 3264 BP; 904 A; 742 C; 758 G; 860 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1; SEQ ID NO 36164; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                       7 AspProAlaGlyTyrLeuLeuTyrCysProCysMet------
                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
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11-JUL-2000; 2000US-00614150.
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                                                                                                                                                                                1.48e-14
188.00
64.06%
59.38%
53.26%
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2003 GGAGTATCGT 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Drosophila melanogaster.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Venter JC, Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-656860/75.
P-PSDB; ABB69791.
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                                                                                                                                                                                                                              Similarity:
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                                                                                                                                                                                                                  Percent Similarity:
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                                                                                                                                                                      Alignment Scores:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; signal peptide-containing protein; HSPP; diagnosis; cancer; inflammation; cardiovascular disease; anticancer; anti-inflammatory; antimicorbial; notropic; neuroprecetive; cardiovascular; hepatotropic; antiathmatic; gene therapy; cell proliferation; neurological disorder; reproductive disorder; developmental disorder; arteriosclerosis; calrinosis; psoriasis; acquired immune deficiency syndrome; anaemia; asthma; Crohn's disease; infection; Alzheimer's disease; scharophrenia; Parkinson's disease; Huntington's diseases; ovulatory defect;
                                                                                                                                                                                                                                                                                                                                                                                                                                            28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           48
        The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL16175) and the encoded proteins (ABBS20717-ABR307272). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            615 GAAAAACGACAACTAAACCGCGCTTTTCAAAGGACGCTTTGGCAACCAGGCCGACCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19 ------1yArgPheGlyAsnGlnAlaAspHisPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human signal peptide containing protein HSPP-102 cDNA SEQ ID NO:236
                                                                                                                                                                                    Sequence 3793 BP; 1020 A; 853 C; 950 G; 970 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                              7 AspProAlaGlyTyrLeuLeuTyrCysProCysMet-------
                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
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98US-0094983P.
98US-0102686P.
98US-0112129P.
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188.00
64.06%
59.38%
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GGAGTATCGT 486
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                                                                                                                                                                                                                                                                                      Similarity:
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                                                                                                                                                                                                                                                                     Percent Similarity:
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01-OCT-1998;
11-DEC-1998;
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Pred. No.:
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AAZ98210
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human signal peptide-containing proteins HSPP-1 to HSPP-134. HSPPs have thuman signal peptide-containing proteins HSPP-1 to HSPP-134. HSPPs have anticancer, anti-inflammatory, antimicrobial, nootropic, hepatotropic, neuroprotective, cardiovascular and antiasthmatic activities, and can be used in gene therapy. HSPPs can be used to treat or prevent disorders associated with decreased activity or function of HSPP. Antagonists of HSPP are used to treat or prevent disorders associated with increased activity or function of HSPP. Such diseases include cell proliferation (including cancer), inflammation, cardiovascular, neurological, reproductive or developmental disorders, (e.g. arteriosclerosis, critropis, psoriasis, acquired immune deficiency syndrome, anaemia, asthma, Crohn's disease, microbial or other infections, congestive or ischaemic heart disease, Alzheimer's, Parkinson's or Huntington's critrophsis, psoriasis, and incobial or other infections, or Huntington's critical acids can be used for the recombinant production of HSPP, for detecting HSPP in standard hybridisation and amplification assays (for detecting HSPP in standard hybridisation and amplification assays (for variations, and for chromosomal mapping, HSPP are also used to raise corpectific antibodies (Ab) and to screen for agonists and antagonists, in competitive drug screens, and for purification of HSPP from natural
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        111 ATGCCCGGGGCTCCTGGGACCCGGCCGGTTACTGCTCTACTGCCCCTGCATGGGTAAG 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MetProAlaGlySerTrpAgpProAlaGlyTyrLeuLeuTyrCysProCysMetGlyArg 20
                                                                                                                                                              New human signal peptide-containing proteins useful in treatment, prevention and diagnosis of e.g. cancer, inflammation and cardiovascular
                               GA, Corley NC, Guegler KJ, Baughn MR;
Yue H, Patterson C, Reddy R, Hillman JL;
                                                                                                                                                                                                                                                                           to AAZ98242 encode AAY87224 to AAY87357 which represent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cytostatic; Gene Therapy; cancer; leukemia; lymphoma; Human; ds.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human cancer associated sequence HD11-034, SEQ ID 957.
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19
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Conservative:
Mismatches:
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                                                                                                                                                                                                                                              Claim 9; Page 307; 327pp; English.
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120.00
100.00%
95.00%
33.99%
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                                       Gorgone
                                                      Au-Young J,
(INCY-) INCYTE PHARM INC.
                                                                                                             WPI; 2000-160673/14.
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Best Local Similarity:
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                                     Lal P, Tang YT,
Akerblom IE, Au
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                                                                            Bandman O;
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22-JUL-2004.

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Alignment Scores:
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DB:
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                                                                                                                                                                                                                                                                                                                                                                                                                               66440 TICCICACAIGGAAICAAAGCCACAICIGITCITTAICCICIGGACCAGGICIGCAGA 66499
                                                                                                             New isolated cancer associated nucleic acids comprising at least 10 contiguous nuclectides, useful for diagnosing, preventing and/or treating cancers such as leukemia and lymphoma.
                                                                                                                                                                         The present invention relates to cancer associated sequences (ADQ97025-ADQ98004). The sequences are useful for the diagnosais, prevention and/or treatment of cancer, such as leukemia and lymphoma. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic formate directly from WIPO at ftp. wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ------HisPheLeuGlySerLeuAlaPheAlaLysLeuLeuAsn 39
                                                                                                                                                                                                                                                                                                                                                                            2 ProAlaGlySerTrpAspProAlaGlyTyrLeu---LeuTyrCysProCysMetGlyArg 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Probe #8699 for gene expression analysis in human cervical cell sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                human; microarray; gene expression; cervical epithelial cell;
                                                                                                                                                                                                                                                Sequence 97081 BP; 23547 A; 23101 C; 24653 G; 25780 T; 0 U; 0 Other;
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Matches:
Conservative:
Mismatches:
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                                                                                                                                                     Claim 1; SEQ ID NO 957; 199pp; English.
                                                                                                                                                                                                                                                                                                                                                      (1-97081)
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                            27-DEC-2002; 2002US-00330773
                                                 (SAGR-) SAGRES DISCOVERY INC
         22-DEC-2003; 2003WO-US041389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAI18766 standard; DNA; 591
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                                                                                                                                                                                                                                                                                4.33
94.00
43.84%
28.77%
26.63%
                                                                      Malandro MS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cervical cancer; ss.
                                                                                         WPI; 2004-543781/52
                                                                                                                                                                                                                                                                                                               Similarity:
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                                                                                                                                                                                                                                                                                                     Percent Similarity:
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                                                                      Morris DW,
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Query Match:
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Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human cervical epithelial cells.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present invention relates to human single exon nucleic acid probes (SENP). The present sequence is one such probe. The SRNPs are derived from human HeLa cells. The SRNPs can be used to produce a single exon microarray, which can be used for measuring human gene expression in a sample derived from human cervical epithelial cells. By measuring gene expression, the probes are therefore useful in grading and/or staging of diseases of the cervix, notably cervical cancer. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 ProbladlySerTrpAspProAlaGlyTyrLeu---LeuTyrCysProCysMetGlyArg 20
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|TTTGGGCACTCCAGTGACCAGGGCCTCGGGTCCTGCACACCTCCCATGAGGAGATGTC
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Matches:
Conservative:
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Indels:
Gaps:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PheglyAsnGlnAlaAsp------
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04-FEB-2000; 2000US-0180312P.
26-WAY-22000; 2000US-0207456P.
30-UJN-2000; 2000US-0568408.
03-AUG-2000; 2000US-023468P.
21-SEP-2000; 2000US-023468PP.
27-SEP-2000; 2000US-023459P.
04-OCT-2000; 2000GB-00024263.
                                                                                                                                                                                                                         (MOLE-) MOLECULAR DYNAMICS INC.
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41.18%
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25.50%
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                                                                                                                                                                                                                                                                                 Penn SG, Hanzel DK,
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Best Local Similarity:
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WO200157277-A2
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                              Homo sapiens
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                                                                                                                                                                                                           Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human cervical epithelial cells.
                                                                                                                                                                                                                                                           The present invention relates to human single exon nucleic acid probes (SENP). The present sequence is one such probe. The SENPs are derived from human Hela cells. The SENPs can be used to produce a single exon microarray, which can be used for measuring human gene expression in a sample derived from human cervical epithelial cells. By measuring gene expression, the probes are therefore useful in grading and/or staging of diseases of the cervix, notably cervical cancer. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at
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                                                                                                                                                                                                                                                                                                                                                                              Sequence 591 BP; 139 A; 145 C; 156 G; 151 T; 0 U; 0 Other;
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Matches:
Conservative:
Mismatches:
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                                                                                                                                                                    Chen W,
                                                                                           2000US-00632366.
2000US-0234687P.
2000US-0236359P.
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  WO200157278-A2
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21-SEP-2000;
27-SEP-2000;
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                                                               04-FEB-2000;
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The invention relates to a single exon nucleic acid probe for measuring human gene expression in a sample derived from human foetal liver. The single exon nucleic acid probes may be used for predicting, measuring and displaying gene expression in samples derived from human fetal liver. The present sequence is a single exon nucleic acid probe of the invention. Note: The sequence data for this parent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
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447 TTTGGGCACTCCAGTGACCAGGGCCTCGGGTCCTGCACACCTCCCATGAGGAGAGATGTC 506
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Human; foetal liver; gene expression; single exon nucleic acid probe; ss.
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21-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-0236359P.
04-OCT-2000; 2000GB-00024263.
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GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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- protein search, using sw model OM protein

Run on:

October 25, 2005, 15:21:43 ; Search time 7.64066 Seconds (without alignments) 768.157 Million cell updates/sec

Title: Perfect score:

US-09-774-954-9 353 1 MPAGSWDPAGYLLYCPCMGR......LAVPPWIEYQHHKPPFTNLH Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283416 segs, 96216763 residues Searched: Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR 79:\*
1: pirl:\*
2: pir2:\*
3: pir3:\*
4: pir4:\* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

| Result |       | *<br>Ouery |        |    |        |                    |
|--------|-------|------------|--------|----|--------|--------------------|
| No.    | Score | Match      | Length | DB | QI     | Description        |
| 1      | 123   | 34.8       | 474    | ~  | T15511 |                    |
| 7      | 78    | 22.1       | 354    | N  | 151266 |                    |
| m      | 67    | 19.0       | 355    | ~  | A42347 | eer                |
| 4      | 99    |            | 355    | ~  | 151319 | RH2 opsin - green  |
| 'S     | 64.5  | 18.3       | 219    | 7  | 872721 | amidotransferase h |
| 9      | 64.5  | 18.3       | 223    | 7  | B86968 | conserved hypothet |
| 7      | 64    | 18.1       | 212    | ~  | D82431 | Cbby family protei |
| 8      | 62.5  | 17.7       | 603    | ~  | A87342 | conserved hypothet |
| 6      | 62    | 17.6       | 349    | ~  | B45229 | opsin, green-sensi |
| 10     | 62    | 17.6       | 353    | Н  | JN0120 | U2                 |
| 11     | 61.5  | 17.4       | 349    | 7  | A45229 | opsin, green-sensi |
| 12     | 60.5  | 17.1       | 767    | ~  | D95101 | SpoE family protei |
| 13     | 60.5  | 17.1       | 767    | ~  | E97969 | division           |
| 14     | 59.5  | 16.9       | 198    | N  | C70570 |                    |
| 15     | 59.5  | 16.9       | 492    | 7  | T41004 | hypothetical prote |
| 16     | 59.5  | 16.9       | 269    | 7  | E86957 | probable cholester |
| 17     | 59.5  | 16.9       | 585    | ~  | 872824 | cholesterol oxidas |
| 18     | ம     | 16.7       | 2482   | N  | 148922 | cation-independent |
| 13     | 50    | 16.7       | 2483   | Н  | A49617 | insulin-like growt |
| 20     | 58.5  | 16.6       | 430    | N  | AB2316 |                    |
| 21     | œ.    | 16.6       | 504    | 7  | B40829 | activin receptor i |
| 22     |       | 16.6       | 528    | ~  | C40829 | activin receptor i |
|        | 58    | 16.4       | 225    | 7  | B88712 | protein C17H12.10  |
|        | 58    | 16.4       |        | ~  | A36047 | galactoside 2-alph |
|        | 58    | 16.4       |        | ~  | D69040 | Q                  |
|        | 58    | 16.4       |        | N  | G71443 | hypothetical prote |
| 27     | 58    | 16.4       |        | 7  | F71433 | 3                  |
| 28     | 57.5  | 16.3       | 4      | 0  | T00918 |                    |
| 59     | 57.5  | 16.3       | 491    | N  | S76943 | hypothetical prote |

| hypothetical prote<br>conserved hypothet<br>opsin, rod - Pomat | rhodopsin - northe<br>hypothetical prote<br>probable permease | hypothetical prote<br>hypothetical prote<br>hypothetical prote | phosphate ABC tran<br>rhodopsin - chicke<br>iodopsin homolog - | serotonin receptor<br>serotonin receptor<br>serotonin receptor<br>penicillin-binding |
|----------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------|
| T33136<br>AG0707<br>S40688                                     | S27231<br>T40967<br>H83353                                    | AB1919<br>G84770<br>AF2402                                     | A70127<br>S29152<br>A46191                                     | 149375<br>138209<br>JH0315<br>E64715                                                 |
| 777                                                            | 4 4 8 8                                                       | 000                                                            | 224                                                            | 0000                                                                                 |
| 1329                                                           | 354<br>2562<br>254                                            | 284<br>513<br>307                                              | 328<br>351<br>355                                              | 421<br>422<br>422<br>588                                                             |
| 16.3                                                           | 1001                                                          | 16.0                                                           | 15.9<br>15.9                                                   | 15.9<br>15.9<br>15.9                                                                 |
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## ALIGNMENTS

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A;Accession: T15511
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Status: 1-474 <LEI>A;Residues: 1-474 <LEI>A;Residues: 1-474 <LEI>A;Coss-references: EMBL:U41528; NID:g1109795; PID:g1109800; PIDN:AAA83156.1; CESP:C15C7.
C;Genetics: CESP:C15C7.1
A;Gene: CESP:C15C7.1
A;Gene: CESP:C15C7.1
A;Introns: 31/3; 67/2; 106/2; 166/1; 202/3; 335/3; 364/3; 410/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
hypothetical protein C15C7.1 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C;Accession: T15511
R;Leimbach, D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
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                                                                                                                                                                                 submitted to the EMBL Data Library, November 1995
A; Description: The sequence of C. elegans cosmid C15C7.
A; Reference number: Z18363
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166 GRFGNQVDQFLGVLAFAKALDRTLVLPNFIEFKH 199 q

a

opsin, green-sensitive - Mexican tetra C;Species: Astyanax mexicanus (Mexican tetra) C;Date: 13-Sep-1996 #sequence\_revision 13-Sep-1996 #text\_change 09-Jul-2004 C;Accession: I51266

R;Register, E.A.; Yokoyama, R.; Yokoyama, S. J. Mol. Evol. 39, 268-273, 1994 A;Title: Multiple origins of the green-sensitive opsin genes in fish. A;Reference number: I51266; MUID:95018302; PMID:7932788

A; Accession: I51266

A;Status; remaindery; translated from GB/EMBL/DDBJ
A;Status; preliminary; translated from GB/EMBL/DDBJ
A;Status; preliminary; translated from GB/EMBL/DDBJ
A;Reaidues: 1-354 cREG>
A;Cross-references: UNIPROT:P51474; GB:S75255; NID:g807171; PIDN:AAB32221.1; PID:g807172

A;Introns: 124/1; 180/2; 235/3; 315/3 C;Superfamily: vertebrate rhodopsin C;Keywords: chromoprotein; eye; G protein-coupled receptor; lipoprotein; phosphoprotein; F;299/Binding site: retinal (Lys) (covalent) #status predicted

Score 78; DB 2; Length 354; Pred. No. 0.046; 22.1%; 33.3%; Query Match Best Local Similarity

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Bishope and hypothetical protein ML0474 [imported] - Mycobacterium leprae
CjSpecies: Mycobacterium leprae
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R;Cole, S.T.; Eiglmeier, K.; Parkhill, J.; James, K.D.; Thomson, N.R.; Wheeler, P.R.; Hor
R; Davies, R.M.; Devlin, K.; Duthoy, S.; Feltwell, T.; Fraser, A.; Hamlin, N.; Holroyd,
am, M.A.; Rutherford, K.M.
Nature 409, 1007-1011, 2001
A;Authors: Rutter, S.; Seeger, K.; Simon, S.; Simmonds, M.; Skelton, J.; Squares, R.; Sqn
A;Reterner anuber: A86909; MUID:21128732; PMID:11234002
A;Accession: B86968
A;Status: preliminary
A;Residues: 1-223 «STO»
A;Cross-references: UNIPROT:Q9CCT5; GB:AL450380; NID:g13092704; PIDN:CAC29982.1; GSPDB:GP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Accession: S72721
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-219 <SMI>
A;Residues: 1-219 <SMI>
A;Cross-references: UNIPROT:Q49637; EMBL:U00011; NID:g466807; PIDN:AAA17085.1; PID:g46681
                                                                                          A; Introns: 121/1; 177/2; 232/3; 312/3
C; Superfamily: vertebrate rhodopsin
C; Superfamily: vertebrate rhodopsin
C; Superfamily: vertebrate rhodopsin
C; Superfamily: vertebrate rhodopsin
C; Superfamily: vertebrate rhodopsin
C; Stydords: chromoprotein; eye; G protein-coupled receptor; lipoprotein; phosphoprotein;
C; 265/Binding site: retinal (Lys) (covalent) #status predicted
F; 322, 323/Binding site: palmitate (Cys) (covalent) #status predicted
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NyAlternate names: Bl17_Cl_149
CjSpecies: Mycobacterium leprae
CjDate: 19-Mar-1997 #sequence_revision 25-Apr-1997 #text_change 09-Jul-2004
CjAccesion: 871271
R;Smith, D.R.; Robison, K.
Submitted to the EMBL Data Library, November 1993
A;Description: Mycobacterium leprae cosmid Bl177.
A;Reference number: 872694
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18.7%; Score 66; DB 2; Length 355;
Best Local Similarity 28.9%; Pred; No. 1.5;
Matches 13; Conservative 10; Mismatches 22; Indels
Matches 13; Conservative 10; Mismatches 22; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11 YLLYCPCMGRFGNOADHFLGSLAFAKLLNRTLAVPPWIEYOHHKP 55
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Pred. No. 1.4;
4; Mismatches 11;
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C,Superfamily: conserved hypothetical protein H11648
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C;Superfamily: conserved hypothetical protein H11648
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Best Local Similarity 43.8%;
Matches 14; Conservative
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NiAlternate names: green visual pigment
CiSpecies (Gallus gallus (chicken)
CiSpecies (Gallus gallus (chicken)
CiDate: 31-06-1993 #sequence_revision 31-Dec-1993 #text_change 09-Jul-2004
CiDate: 31-08-1315 #sequence_revision 31-Dec-1993 #text_change 09-Jul-2004
CiDate: 31-08-1315 #sequence_revision 31-Dec-1993 #text_change 09-Jul-2004
CiDate: 31-08-1315 #sequence revision 31-Dec-1993 #text_change 09-Jul-2004
CiDate: 31-3309-3315, 1992
A;Title: A visual pigment from chicken that resembles rhodopsin: amino acid sequence, A;Reference number: A4234
A;Molecule type: DNA
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C;Species: Anolis carolinensis (green anole)
C;Species: Anolis carolinensis (green anole)
C;Accession: I5-399-1996 #sequence_revision 13-8ep-1996 #text_change 09-Jul-2004
C;Accession: I5-3139
B;Kawamura 5.; Yokoyama, 8.
B;Kawamura 5.; Yokoyama, 8.
B;Kawamura 5.; Yokoyama, 8.
B;Kawamura 5.; Yokoyama, 8.
B;Title: Paralogous origin of the rhodopsinlike opsin genes in lizards.
A;Title: Paralogous origin of the rhodopsinlike opsin genes in lizards.
A;Title: Paralogous origin of the rhodopsinlike opsin genes in lizards.
A;Accession: I5-319
A;Accession: I5-319
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Readuses: 1-355 ckAM>A;Readuses: UNIPROT:PS1471; GB:S79167; NID:g1042072; PIDN:AAB35062.1; PID:g10420
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A;Status: chromoportein; pyc; d protein-coupled receptor; glycoprotein; lipoprotein; clycoprotein; pyc; d protein-coupled receptor; glycoprotein; lipoprotein; g;37-61/Domain: transmembrane #status predicted <TM3>
F;37-61/Domain: transmembrane #status predicted <TM3>
F;153-175/Domain: transmembrane #status predicted <TM3>
F;283-276/Domain: transmembrane #status predicted <TM5>
F;283-276/Domain: transmembrane #status predicted <TM5>
F;285-309/Domain: transmembrane #status predicted <TM7>
F;285-309/Domain: transmembrane #status predicted <TM7>
F;285-309/Domain: transmembrane #status predicted <TM7>
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F;285-309/Domain
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      Gaps
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o
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      23; Indels
7; Mismatches
      15; Conservative
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IS1319
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opein, green-sensitive (clone GFgr-1) - goldfish (Species: Carassius auratus (goldfish) (Species: Carassius auratus (goldfish) (Species: 30-Apr-1993 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004 (Spacession: A45229 (Spacession: A45229 (Spacession: A7529 (Spacession: A7529 (Spacession: A7529 (Spacession: A7529 (Spacession: A7529) (Spacession: A7529) (Spacession: A7529) (Spacession: A7529) (MJD:)93120096; PMID:8418840
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A,Note: the authors translated the codon AAC for residue 195 as Glu
C,Superfamily: vertebrate rhodopsin
C,Superfamily: vertebrate rhodopsin
C,Keywords: chromoprotein; eye; G protein-coupled receptor; glycoprotein; lipoprotein; p)
F;37-61/Domain: transmembrane #status predicted <TM1>
F;74-96/Domain: transmembrane #status predicted <TM3>
F;153-173/Domain: transmembrane #status predicted <TM4>
F;23-230/Domain: transmembrane #status predicted <TM6>
F;23-230/Domain: transmembrane #status predicted <TM6>
F;28-30/Domain: transmembrane #status predicted <TM7>
F;28-30/Domain: transmembrane #status predicted <TM7>
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F;28-30/Domain: transmembrane #status predicted <TM7>
F;28-30/Domain: transmembrane #status predicted <TM7>
F;23-23/Binding site: retinal (Lys) (covalent) #status predicted F;322,323/Binding site: palmitate (Cys) (covalent) #status predicted
                                                               A,Status: not compared with conceptual translation
A,Status: not compared with conceptual translation
A,Molecule type: mRNA
A,Rolecule type: mRNA
A,Rolecule type: mRNA
A,Rolecule type: nDN:AAA49169.1; PID:g212960
A,Cross-references: UNIPROT:P32312; GB:L11866; NID:g212959; PIDN:AAA49169.1; PID:g212960
A,Experimental source: retina
A,Note: sequence extracted from NCBI backbone (NCBIP:122266)
C,Superfamily: vertebrate rhodopsin
C,Superfamily: vertebrate rhodopsin
C,Superfamily: ortebrate rhodopsin
C,Superfamily: extrebrate rhodopsin
C,Superfamily: extrebrate rhodopsin
C,Superfamily: vertebrate retinal
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A,Cross-references: UNIPROT:P22671; GB:M63632; NID:G213348; PIDN:AAA49342.1; PID:G213349
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C;Species: Lampetra japonica (Japanese lamprey)
C;Date: 30-Jun-1993 #sequence_revision 30-Jun-1993 #text_change 09-Jul-2004
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R;Hisatomi, O.; Iwasa, T.; Tokunaga, F.; Yasui, A.
Biochem. Biophys. Res. Commun. 174, 1125-1132, 1991
A;Title: Isolation and characterization of lamprey rhodopsin cDNA.
A;Reference number: JN0120; MUID:91144585; PMID:1840482
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Best Local Similarity 26.7%; Pred. No. 4.8;
Matches 12; Conservative 9; Mismatches 24; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11 YLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKP 55
A;Reference number: A45229; MUID:93120096; PMID:8418840
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                                                      A; Accession: B45229
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Biochemistry 32, 208-214, 1993
A;Title: Cloning and expression of goldfish opsin sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: UNIPROT:Q9KLS9; GB:AE004396; GB:AE003853; NID:g9658077; PIDN:AAF9656
A;Experimental source: serogroup O1; strain N16961; biotype El Tor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Accession: A87342
R;Nierman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg, J. B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haff, D.H.; Kolon n, J.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C.M. Proc. Sci. U.S.A. 98, 4136-4141, 2001
A;Title: Complete Genome Sequence of Caulobacter crescentus.
A;Reference number: A87249; MUID:21173698; PMID:11259647
                                                                                                                                                                                                                                                                                                                                                                                                                               RiHeidelberg, J.F.; Bisen, J.A.; Nelson, W.C.; Clayton, R.A.; Gwinn, M.L.; Dodson, R.J. Chardson, D.; Ermolaeva, M.D.; Vamathevan, J.; Bass, S.; Qin, H.; Dragoi, I.; Sellers, Chardson, J.J.; Venter, J.C.; Fraser, C.M.
Nature 406, 477-483, 2000
A;Title: DNA Sequence of both chromosomes of the cholera pathogen Vibrio cholerae.
                                                                                                                                                                                                                                                                    CbbY family protein VCA0662 [imported] - Vibrio cholerae (strain N16961 serogroup O1) C;Species: Vibrio cholerae C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 09-Jul-2004 C;Accession: D82431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; ritte: DNA Sequence of both chromosomes of the cholera pathogen Vibrio cholerae.
A; Reference number: A82035; MUD:20406833; PMID:10952301
A; Accession: D82431
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 opsin, green-sensitive (clone GFgr-2) - goldfish
C;Species: Carassius auratus (goldfish)
C;Date: 30-Apr-1993 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               conserved hypothetical protein CC0748 [imported] - Caulobacter crescentus C;Species: Caulobacter crescentus C;Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 20-Apr-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ë
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Pred. No. 7.5;
5; Mismatches 28; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 64; DB 2; Length 212;
Pred. No. 1.5;
8; Mismatches 21; Indels
             17.7%;
ilarity 32.1%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 18.1%;
Best Local Similarity 35.2%;
Matches 19; Conservative
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Best Local Similarity
Matches 17; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Residues: 1-212 <HEI>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Status: preliminary A;Molecule type: DNA
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A;Gene: VCA0662
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Ouery Match
17.4%; Score 61.5; DB 2; Length 349;
Best Local Similarity 30.2%; Pred. No. 5.5;
Matches 13; Conservative 6; Mismatches 11; Indels

RESULT 12

5.5; whes 21; Indels

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hypothetical protein Rv2604c - Mycobacterium tuberculosis (strain H37RV)
CySpecies: Mycobacterium tuberculosis
CySpecies: Mycobacterium tuberculosis
CyDacesion: 70-570
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C;Species: Schizosaccharomyces pombe
C;Species: Oshizosaccharomyces pombe
C;Baccssion: T41004
R;Wcod, V.; Rajandream, M.A.; Barrell, B.G.; Rieger, M.
R;Wcod, V.; Rajandream, M.A.; Barrell, B.G.; Rieger, M.
R;Wcod, V.; Rajandream, M.A.; Barrell, B.G.; Rieger, M.
R;Wcod, V.; Rajandream, M.A.; Barrell, B.G.; Rieger, M.
R;Wcod, V.; Rajandream, M.A.; Barrell, B.G.; Rieger, M.
R;Reference number: 22163
A;Reference number: 22163
A;Reference number: 22163
A;Residues: 1490
A;Residues: 1492 < WOX
A;Cross-references: UNIPROT:060077; EMBL;AL023776; PIDN:CAA19301.1; GSPDB:GN00067; SPDB:EACCARAINGERIENTELL
A;Residues: 1492 < WOX
A;Cross-references: UNIPROT:060077; EMBL;AL023776; PIDN:CAA19301.1; GSPDB:CNCCARAINGERIENTELL
A;Residues: 1400 < WOX
A;Cross-references: UNIPROT:060077; EMBL;AL023776; PIDN:CAA19301.1; GSPDB:CNCCARAINGERIENTELL
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                                                                                                                                                                                 10 GYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEY 50
                                              18;
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C;Superfamily: conserved hypothetical protein H11648
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      116 FGSQVDSFEGDIEFAGLDDPVRAVFIRAPWVE 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21 FGNOADHFLGSLAFAKLLNRTLAV---PPWIE 49
Best Local Similarity 36.6%; Pred. No. 17;
Matches 15; Conservative 5; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 59.5; D
Pred. No. 14;
8; Mismatches
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ilarity 43.8%;
Conservative
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Best Local Similarity 41.2%;
Matches 14; Conservative
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A;Map position: 2
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C; Species: Streptococcus pneumoniae
C; Species: Streptococcus pneumoniae
C; Species: O3-Aug-2001 #sequence_revision 03-Aug-2001 #text_change 09-Jul-2004
C; Date 03-Aug-2001 #sequence_revision 03-Aug-2001 #text_change 09-Jul-2004
C; Date 03-Aug-2001 #sequence_revision 03-Aug-2001 #text_change 09-Jul-2004
C; Paccession: D95101
R; Tettelin, H.; Nelson, K.E.; Paulsen, I.T.; Elsen, J.A.; Read, T.D.; Peterson, S.; Heid
C, J.; Mang, E.K.; Holt, I.E.
Science 293, 498-506, 2001
A; Authors: Loftuu, B.J.; Yang, F.; Smith, H.O.; Venter, J.C.; Dougherty, B.A.; Morrison, A; Title: Complete Genome Sequence of a virulent isolate of Streptococcus pneumoniae.
A; Reference number: A95000; MUID:21357209; PMID:11463916
A; Actual: preliminary
A; Molecule type: DNA
A; Molecule type: DNA
A; Cross-references: UNIPROT:08D094; GB:AE005672; PIDN:AAK75005.1; PID:g14972351, GSPDB:C
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cold protein Spread streptococcus pneumoniae
coldes Streptococcus pneumoniae
coldes Streptococcus pneumoniae
coldes Streptococcus pneumoniae
coldes Streptococcus B9786
coldes Streptococcus Day, N. Alborn Jr., W.; Arnold, J.; Blaszczak, L.; Burgett, S.; DeHoff, B.S.; E. R.; LeBlanc, D.J.; Lee, L.N.; Lefkowitz, E.J.; Lu, J.; Matsushima, P.; McAhren, S.; M.
y, P.; Sun, P.M.; Winkler, M. B.
d. Bacteriol. 183, 5709-5717, 2001
A;Authors: Yang, Y.; Young-Bellido, M.; Zhao, G.; Zook, C.; Baltz, R.H.; Jaskunas, S.R.;
A;Title: Genome of the Bacterium Streptococcus pneumoniae Strain R6.
A;Reference number: A97872; MUID:21429245; PMID:11544234
A;Status: proliminary
A;Status: proliminary
A;Status: proliminary
A;Status: Proliminary
A;Coss-references: UNIPROT:Q8DQ94; GB:AE007317; PIDN:AAK99585.1; PID:915458378; GSPDB:GCGGenetics:
                                         A, Cross-references: UNIPROT:P32311; GB:L11865; NID:g212957; PIDN:AAA49168.1; PID:g212958
A,Experimental source: retina
A,Experimental source: retina
C, Superfamily: vertebrate from NOBI backbone (NCBIP:122265)
C, Superfamily: vertebrate rhodopsin
C, Superfamily: vertebrate rhodopsin
C, Sewords: chromoprotein; evey, G protein-coupled receptor; glycoprotein; lipoprotein; F:2.15/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;296/Binding site: retinal (Lys) (covalent) #status predicted
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ë,

17.1%; Score 60.5; DB 2; Length 767; 36.6%; Pred. No. 17; ative 5; Mismatches 18; Indels

Query Match
Best Local Similarity 36.0.
Best 15, Conservative

A,Gene: SP0878 C,Superfamily: Bacillus subtilis DNA translocase spoIIIE

SP0878

142 GVALYIPTAFLFSNIGTYFIGSIL---ILVGSLLVSPWSVY 179

10 GYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEY

ò g 17.1%; Score 60.5; DB 2; Length 767;

A,Gene: ftaK C,Superfamily: Bacillus subtilis DNA translocase spoIIIE

Query Match

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Sequence 169, App
Sequence 6, Appli
Sequence 3, Appli
Sequence 17, Appl
Sequence 17, Appli
Sequence 102, Appli
Sequence 102, Appli
Sequence 14, Appli
Sequence 327031,
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Sequence 2, Appli
                                                                                                                                                                         October 25, 2005, 15:22:39; Search time 35.8234 Seconds (without alignments) 710.936 Million cell updates/sec
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- (ptodata/2/pubpaa/USO7_NEW PUB. pep: "
- (ptodata/2/pubpaa/PCTUS_PUBCOMB. pep: "
- (ptodata/2/pubpaa/PCTUS_PUBCOMB. pep: "
- (ptodata/2/pubpaa/USO9_PUBCOMB. pep: ")
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/cgn2_6/ptodata/2/pubpaa/US11A_PUBCOMB.pep:*
/cgn2_6/ptodata/2/pubpaa/US11_NEW_PUB.pep:*
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GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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US-10-774-954-2
US-10-301-822-169
US-09-774-954-6
US-09-774-954-3
US-11-097-143-18162
US-09-774-954-1
US-09-774-954-1
US-09-774-954-1
US-09-774-954-102
US-09-774-954-102
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US-09-774-954-14
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1: /cgn2_6/ptodata/2/pubpaa/U
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4: /cgn2_6/ptodata/2/pubpaa/U
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7: /cgn2_6/ptodata/2/pubpaa/U
8: /cgn2_6/ptodata/2/pubpaa/U
9: /cgn2_6/ptodata/2/pubpaa/U
9: /cgn2_6/ptodata/2/pubpaa/U
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10: /cgn2_6/ptodata/2/pubpaa/U
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Match Length DB
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Perfect score:
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ALIGNMENTS

| equence 266111<br>equence 20132<br>equence 11391<br>equence 12551<br>equence 63705<br>equence 62907      | edneuc<br>edneuc<br>edneuc<br>edneuc<br>edneuc<br>edneuc                                                                            |                                                                                                                                                                       | Sequence 61362, A<br>Sequence 63462, A<br>Sequence 61747, A<br>Sequence 17, Appl<br>Sequence 17, Appl<br>Sequence 17, Appl<br>Sequence 17, Appl<br>Sequence 11, Appl<br>Sequence 11, Appl |
|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10-424-599-266<br>10-425-115-201<br>10-437-963-113<br>10-156-761-125<br>10-282-122A-63<br>10-369-493-828 | 10-425-115-28<br>10-437-963-18<br>10-437-963-14<br>10-424-599-14<br>10-437-963-11<br>10-437-963-19<br>10-437-963-19<br>10-427-15-23 | 00-472-928-1698<br>(0-617-320-3610<br>0-815-242-13343<br>0-815-242-13598<br>0-769-787-96<br>0-282-122A-7391<br>0-424-599-17434<br>(0-424-599-17434<br>0-424-599-17434 | 1000                                                                                                                                                                                      |
| 115<br>115<br>115<br>115                                                                                 | 116<br>116<br>116<br>116<br>116<br>116                                                                                              | 11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11                                                                                            | 24441<br>2555 4444                                                                                                                                                                        |
| 152<br>189<br>538<br>601<br>223<br>191<br>580                                                            | 156<br>1271<br>119<br>119<br>1262<br>1262<br>1264<br>117                                                                            | 741<br>763<br>767<br>767<br>767<br>763<br>763<br>763<br>763                                                                                                           | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                     |
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RESULT 1
US-09-774-554-9
US-09-774-554-9

Sequence 9, Application US/09714954

Publication No. US20040241645A1

GENERAL INFORMATION:

APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-Fucosyltransferase

NUMBER OF SEQUENCES: 17

CORRESPONDENCE ADDRESS:

ADDRESSE: Genentech, Inc.

STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080

COMPUTER: EADABLE FORM:

MEDIUM TYPE: 3: Sinch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFFWATS: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
FILING DATE: 30-Jan-2001
CLASSIFICATION NUMBER: US/08/978,741
FILING DATE: 31-JAN-1997
APPLICATION NUMBER: US/08/978,741
FILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:

NAME: SVODGA, Craig G.

RESTERBENCE/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:

```
APPLICANT: Milleminum Fraimmeceuricals, inc.
APPLICANT: Gerger, Allison
APPLICANT: Gillemette, Tracy L.
APPLICANT: Gillemette, Tracy L.
APPLICANT: Schlegel, Robert
APPLICANT: Schlegel, Robert
APPLICANT: Schlegel, Robert
APPLICANT: Wandhan, John E.
APPLICANT: Wandhan, John E.
APPLICANT: Millemette, Stephen N.
APPLICANT: Hibodeau, Stephen N.
APPLICANT: Hibodeau, Stephen N.
APPLICANT: Burgatt, Lawrence J.
TITLE OF INVENTION: METRODS FOR IDENTIFICATION, ASSESSMENT, PREVENTION: THERAPY OF COLON CANCER
TITLE OF INVENTION: THERAPY OF COLON CANCER
TITLE OF INVENTION: THERAPY OF COLON CANCER
FILE REFERENCE: MANOL.029PARM
CURRENT APPLICATION NUMBER: US/10/301, 822
FILER PRILING DATE: 2002-11-2.10
PRIOR PILING DATE: 2001-12-10
PRIOR PILING DATE: 2001-12-10
PRIOR PILING DATE: 2002-03-05
PRIOR PILING DATE: 2002-03-05
PRIOR PILING DATE: 2002-03-05
NUMBER OF SEQ ID NOS: 228
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 169
TENTIFE TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE TRACE FASTS TO THE T
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1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 60
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JOACH APPLICATION US/09774954

PUDLICATION NO. US20040241645A1

GENERAL INFORMATION:

APPLICANT: Yang Wang, Michael W. Spellman

TITLE OF INVENTION: O-Fucosyltransferase

NUMBER OF SEQUENCES: 17

CORRESPONDENCE ADDRESS:

ADDRESSER Genentech, Inc.

STREET: 1 DNA Way

CITY: South San Francisco

STREET: 1 DNA Way

CITY: South San Francisco

STREET: 4080

COUNTRY: USA

COUNTRY: USA

REDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IMP PC compatible

COMPUTER: IMP PC compatible

COMPUTER: IMP PC compatible

COMPUTER: IMP PC compatible

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100.0%; Score 353; DB 14;
Best Local Similarity 100.0%; Pred. No. 1.7e-36;
Matches 61; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                               Sequence 169, Application US/10301822
Publication No. US20000148410A1
GENERAL INFORMATION:
APPLICANT: Millennium Pharmaceuticals, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
CORGANISM: Homo Sapiens
US-10-301-822-169
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Winbatin (Genericch)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/774,954

FILING DATE: 30-Jan-2001

CLASSIFICATION NUMBER: US/08/978,741

FILING DATE: 26-NOV-1997

APPLICATION NUMBER: 08/792,498

FILING DATE: 31-JAM-1997

ATTORNEY/AGENT INFORMATION:

NAME: SYODOGA, CTA34 G.

REGISTRATION NUMBER: 39,044

REGISTRATION NUMBER: 39,044

REGISTRATION NUMBER: 39,044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 2
US-09-774-954-2
US-09-774-954-2
Sequence 2. Application US/09774954
; Publication No. US20040241645A1
GENERAL INFORMATION:
TITLE OF INVENTION: O-FUCOSYLTANSFERASE
NUMBER OF RECUENCES: 17
CORRESPONDENCE ADDRESS:
STREET: 1 DNA Way
CITY: South San Francisco
STRATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 100.0%; Score 353; DB 11; Best Local Similarity 100.0%; Pred. No. 2.2e-37; Matches 61; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 365 amino acids

TYPE: Amino Acid

TOPOLOGY: Linear

SEQUENCE DESCRIPTION: SEQ ID NO: 2:

US-09-774-954-2
                                                                                                                                                                                                                          ;
TOPOLOGY: Linear
;
SEQUENCE DESCRIPTION: SEQ ID NO: 9:
US-09-774-954-9
              TELEPHONE: 650/225-1489
                                                      IELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 61 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS:
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JENERAL INFOGRATION

APPLICANT: Venter, J. Craig

APPLICANT: et al.

TITLE OF INVENTION: DETECTION KIT, SUCH AS NUCLEIC ACID

TITLE OF INVENTION: DETECTION CENTER:

TITLE OF INVENTION: DROSOPHILA GENES.

TITLE OF INVENTION: DROSOPHILA GENES.

TITLE OF INVENTION: DROSOPHILA GENES.

CURRENT APPLICATION NUMBER: US/11/097,143

CURRENT PILING DATE: 1099-10-05

PRIOR APPLICATION NUMBER: 60/160,191

PRIOR PILING DATE: 1999-10-19

PRIOR PILING DATE: 1999-10-28

PRIOR APPLICATION NUMBER: 60/161,932

PRIOR PILING DATE: 1999-11-12

PRIOR PILING DATE: 1999-11-12

PRIOR PILING DATE: 1999-11-12

PRIOR PILING DATE: 1999-10-28

PRIOR PILING DATE: 1999-10-28

PRIOR PILING DATE: 1999-10-28

PRIOR PILING DATE: 2000-01-12

PRIOR PILING DATE: 2000-01-12

PRIOR PILING DATE: 2000-01-12

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                                                                                                                                                                                                                                                                                                                                                                                                        3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7 DPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQ 51
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'US-09-774-954-17
'Sequence 17, Application US/09774954
; Sequence 17, Application US/09774954
; Publication No. US20040241645A1
; GENERAL INFORMATION:
; APPLICANT: Yang Wang, Michael W. Spellman
; TITLE OF INVENTION: O-Fucosyltransferase
; NUMBER OF SEQUECES: 17
; CORRESPONDENCE ADDRESS:
: CORRESPONDENCE Genentech, Inc.
                                                                                                                                                                                                                            Query Match

83.6%; Score 295; DB 11;
Best Local Similarity 91.5%; Pred. No. 6e-30;
Matches 54; Conservative 0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             63.2%; Score 223; DB 20;
84.4%; Pred. No. 7.9e-20;
tive 3; Mismatches 4;
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SOFTWARE: PastSEQ for Windows Version 4.0
SEQ ID NO 18162
                                                                                                                 TOPOLOGY: Linear
SEQUENCE DESCRIPTION: SEQ ID NO: 3:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 18162, Application US/11097143 Publication No. US20050208558A1 GENERAL INFORMATION:
                                                          LENGTH: 61 amino acids
TYPE: Amino Acid
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
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Best Local Similarity 84.4'
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US-11-097-143-18162
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBW PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genentech) CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/774,954 FILING DATE: 30-Jan-2001
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ouery Match 100.0%; Score 353; DB 11; Best Local Similarity 100.0%; Pred. No. 1.7e-36; Matches 61; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-PROCOSYltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSES: Generatech, Inc.
STREET: 1 DNA WAY
CITY: South San Francisco
STATE: California
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/774,954
PILING DATE: 30-Jan-2001
CLASSIFICATION: «UNKNOWN»
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: 08/792,498
FILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
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APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: 08/792,498
FILING DATE: 31-JAN-1997
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NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 99,044
REFERENCE/DOCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:
TELEPPONE: 650/225-1489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE DESCRIPTION: SEQ ID NO: 6: US-09-774-954-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 397 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 3, Application US/09774954
Publication No. US20040241645A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 H 61
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CANT: TANG, Y: TOW

LICANT: GORGONE GINA A.

PLICANT: CORCENEY, NEIL C.

APPLICANT: CORLEY, NEIL C.

APPLICANT: GORGONE GINA A.

APPLICANT: GUEGLER, NARIAH R.

APPLICANT: AL' YOUNG, JANICE

APPLICANT: AL' YOUNG, JANICE

APPLICANT: WISHOWN SIGNAL PETIDE-CONTAINING MOLECULES

PRICA APPLICANT: BANDAN, OLGA

APPLICANT: BANDAN, OLGA

APPLICANT: BANDAN, OLGA

APPLICANT: BANDAN, OLGA

APPLICANT: BANDAN, OLGA

APPLICANT: BANDAN, OLGA

APPLICANT: BANDAN, OLGA

PRICA PETICANT: ON WHERE: POT/US99/14484

PRICA APPLICATION NUMBER: 60/094,983

PRICA APPLICATION NUMBER: 60/094,983

PRICA PRICATION NUMBER: 60/102,686

PRICA PRICATION NUMBER: 60/102,686

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                                                                                                                                                                                                                                                                                                                                                                                                Score 123; DB 11; Length 474;
Pred. No. 6.1e-07;
5; Mismatches 6; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     166 GRFGNQVDQFLGVLAFAKALDRTLVLPNFIEFKH 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19 GRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQH 52
                                                                                                                                                                                                                                                     ;
TOPOLOGY: Linear
;
SEQUENCE DESCRIPTION: SEQ ID NO: 8:
US-09-774-954-8
                REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 39,044
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
                       39,044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 102, Application US/10820474A Publication No. US20050155089A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24 MPAGSWDPAGYLLYCPCMGK 43
                                                                                                                                                                                                                                 LENGTH: 474 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                             34.8%;
                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 67.69
Matches 23; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 95.0
Matches 19; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk computer: IBM PC compatible COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genentech)
                                                                                                               ZIP: 94080
COMPUTER READABLE FORM:
MEDIUW TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
SOFFWARE: Winbatin (Genentech)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 NQADHFLGSLAFAKLINRTLAVPPWIEYQHHKPPFTNLH 39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23 NOADHFLGSLAFAKLLNRTLAVPPWIBYOHHKPPFTNLH
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Sequence 8, Application US/09714954
Sequence 8, Application No. US200401645A1
GENERAL INFORMATION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA WAY
STREET: LONA WAY
CITY: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CUREUL APPLICATION DATA:
CUREUT APPLICATION NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFTCATION: cUnknown>
PRIOR APPLICATION DATE:
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: 08/792,498
FILING DATE: 31-JAN-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:

APPLIAND NUMBER: US/09/774,954
FILING DATE: 30-Jan-2001
CLASSIFICATION: CURKNOWN
PRIOR APPLICATION DATA:
APPLICATION DATA: 20-NOV-1997
FILING DATE: 26-NOV-1997
APPLICATION NUMBER: US/08/978,741
FILING DATE: 31-JAN-1997
ATTORNEY AGENT INFORMATION:
NAME: SVODGGA CTAIG
REGISTRATION NUMBER: 39,044
FERERRENE PLOCKET NUMBER: 91,041
TELECOMMUNICATION INPORMATION:
TELEPHONE: 650/225-1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: Linear
; SEQUENCE DESCRIPTION: SEQ ID NO: 17:
US-09-774-954-17
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 343 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: 650/952-9881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: 17
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 8
US-09-774-954-8
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Gaps

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Sequence 266118 Application US/10424599
| Sequence 266118, Application US/10424599|
| Sequence 266118, Application Volumes 2 |
| Publication No. US20040031072A1 |
| GENERAL INFORMATION: |
| APPLICANT: La Royalic David K |
| APPLICANT: Cao Yongwei |
| TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement |
| TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement |
| TITLE OF INVENTION: 151632231 |
| CURRENT FILING DATE: 2003-04-28 |
| CURRENT FILING DATE: 2003-04-28 |
| COURTION: Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie Courtie 
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APPLICANT: La Rovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TILE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: 1918122)
TITLE REPREBUCE: 38-21(5322)
CURRENT APPLICATION VINES: 18/10/425,115
CURRENT FILING DATE: 2003-04-28
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                                                                                                                                                                                                                                                                                                                      Query Match 24.4%; Score 86; DB 16; Length 110; Best Local Similarity 47.8%; Pred. No. 0.0067; Matches 22; Conservative 2; Mismatches 20; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 PAGSWDPA-GYLLYCPCMGRFGNOADHFLGSLAFAKLLNRTLAVPP 46
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COTER INFORMATION: unsure at all Xaa locations FEATURE:
FEATURE:
COTHER INFORMATION: Clone ID: PAT_MRT3847_82325C.1.pep US-10-424-599-266118
                               FEATURE:

NAME/KEY: unsure

LOCATION: (1)...(110)

OTHER INFORMATION: unsure at all Xaa locations

FEATURE:

OTHER INFORMATION: Clone ID: MRT4577_61321C.1.pep

US-10-425-115-327031
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; Sequence 201329, Application US/10425115
; Publication No. US20040214272A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Glycine max
ORGANISM: Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: unsure
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LENGTH: 189
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APPLICANT: Kovalic, David K.
APPLICANT: Acvalic, Vihua
APPLICANT: Cao, Yongwei
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Plants
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21 (5322) B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT APPLICATION NUMBER: 369326
SEQ ID NO 327031
LENGTH: 110
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Winbatin (Genentech) CURREY APPLICATION NUMBER: US/09/774,954 FILING DATE: 30-Jan-2001 CLASSIPTCATION OF CURROWN-PRIOR APPLICATION NUMBER: US/08/978,741 PTLING DATE: 26-NOV-1997 APPLICATION NUMBER: 08/792,498 FILING DATE: 31-JAN-1997 ATTORNEY/AGENT INFORMATION:
                                                                                                                                           Sequence 14, Application US/09774954
Publication No. US20040241645A1
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF ESQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1041P1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; SEQUENCE DESCRIPTION: SEQ ID NO: 14: US-09-774-954-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 327031, Application US/10425115 Publication No. US20040214272A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: South San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9 MPAGSWDPAGYLLYXPXMGR 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: Amino Acid
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Matches
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ORGANISM: Zea mays

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US-10-437-963-113919

Sequence 113919, Application US/10437963

Publication No. US20040123343A1

GENERAL INFORMATION:
Publication No. US20040123343A1

GENERAL INFORMATION:
APPLICANT: Extra Rosa' Thomas J.
APPLICANT: Cao' Yongwei
APPLICANT: Cao' Yongwei
APPLICANT: Barbazuk, Brad
APPLICANT: Barbazuk, Brad
APPLICANT: Barbazuk, Brad
APPLICANT: Barbazuk, Brad
APPLICANT: La Ping
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
TITLE OF INVENTION: 138-21 (53221) B
CURRENT APPLICATION NUMBER: US/10/437,963

CURRENT FILING DATE: 2003-05-14

NUMBER OF SEQ ID NOS: 204966

SEQ ID NO 113919

TENTOR THE SHAD
TURE OF NOTE OF SEQ ID NOS: 204966

SEQ ID NO 113919
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22.0%; Score 77.5; DB 16; Length 538;
Best Local Similarity 44.2%; Pred. No. 0.47;
Matches 19; Conservative 4; Mismatches 17; Indels 3;
                                                                                        Query Match 22.0%; Score 77.5; DB 16; Length 189; Best Local Similarity 45.5%; Pred. No. 0.15; Matches 20; Conservative 3; Mismatches 18; Indels 3;
                                                                                                                                                                                                                        10 GYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHH 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11 YLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHH 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; OTHER INFORMATION: Clone ID: PAT_MRT4530_17661C.1.pep
US-10-437-963-113919
; FRATURE:
. OTHER INFORMATION: Clone ID: MRT4577_115198C.1.pep
US-10-455-115-201329
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Sequence 12551, Application US/10156761
Publication No. US20030119018A1
GEBREAL INFORMATION:
APPLICANT: TKEDA, HARUO
APPLICANT: HORIKAMA, HISOSHI
APPLICANT: HORIKAMA, HISOSHI
APPLICANT: HORIKAMA, HISOSHI
APPLICANT: HATTORI, MASAHIRA
TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 49-262
CURRENT APPLICATION NUMBER: US/10/156,761
CURRENT FILING DATE: 2002-05-29
PRIOR APPLICATION NUMBER: US/01-204069
PRIOR PILLING DATE: 2001-05-30
PRIOR FILLING DATE: 2001-05-30
PRIOR FILLING DATE: 2001-05-30
NUMBER OF SEQ. ID NOS: 15109
SEQ ID NO 12551
TYPE: PRI
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ORGANISM: Oryza sativa
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TOPOLOGY: Linear
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Best Local Similarity
Matches 61; Conserv
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US-08-978-741-9
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Sequence 2, Appli
Sequence 3, Appli
Sequence 6, Appli
Sequence 7, Appli
Sequence 7, Appli
Sequence 17, Appli
Sequence 17, Appli
Sequence 13, Appl
Sequence 13, Appl
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5075, Ap
3610, Ap
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2, Appli
5, Appli
6379, Ap
                                                                             October 25, 2005, 15:25:36; Search time 10.0205 Seconds (without alignments) 454.426 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Description
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Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                              1 MPAGSWDPAGYLLYCPCMGR.....LAVPPWIEYQHHKPPFTNLH
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( /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
): /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
): /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
//cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
//cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
): /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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US-08-978-741-14
US-09-333-729A-14
US-09-540-236-3055
US-09-578-592-5
US-09-18-111-5
US-09-640-211A-2258
US-09-589-110-5075
US-09-50-107-433-3610
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US-09-333-729A-5
US-09-270-767-45921
US-08-978-741-17
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US-09-902-540-16137
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US-08-978-741-8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JS-09-830-428A-5
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US-08-978-741-6
US-09-333-729A-7
                                                                                                                                                                                                                                 513545 seqs, 74649064 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUMMARIES
                                                                                                                                                                                                                                                                                                                              Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                     OM protein - protein search, using sw model
                                                                                                                                                                                                      Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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Match Length DB
                                                                                                                                     US-09-774-954-9
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28.6
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Perfect score:
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                                                                                                                                                                   Sequence:
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US-07-914-281-6

US-08-393-246-6

US-08-393-411-1

US-08-525-058A-6

US-08-395-800A-10

US-08-395-800A-10

US-08-636-731-6

US-09-151-521-6

US-09-151-522-2

US-09-151-522-2

US-09-254-077A-11

US-09-254-077A-11

US-09-43-766-13

US-09-43-766-13

US-09-949-016-11353

US-09-949-016-11353

US-09-949-016-11353

US-09-866-5708-64

US-09-866-5708-64

US-09-252-991A-25627
                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: 18M PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFFWARE: Windatin (Genentech) CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/978,741 FILING DATE: 26-No. 6100076-1997 CLASSIFICATION DATA: APPLICATION DATA: ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 353; DB 3;
100.0%; Pred. No. 2.3e-40;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                              Pagenene 9, Application US/08978741
Patent No. 6100076
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genetech, Inc.
                                                                                                                                                                                                                          ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REPERENCE/POCKET NUMBER: P1041P1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                        STREET: 1 DNA WAY
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 61 amino acids
TYPE: Amino Acid
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   ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 incl
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1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 60
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                                                                                                                                                                                                                                         1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLINRTLAVPPWIEYQHHKPPFTNL 60
                                                                                                                                                                                                              1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 60
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                                                                                                                Query Match 100.0%; Score 353; DB 3; Length 365; Best Local Similarity 100.0%; Pred. No. 2e-39; Matches 61; Conservative 0; Mismatches 0; Indels (
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CITY: South San Francisco
STATE: Galifornia
COUNTRY: USA
ZIE: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 13.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winhatin (Genentech)
CURRENT APPLICATION NUMBER: US/08/978,741
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; Patent No. 6100076
; CENERAL INFORMATION:
; APPLICANT: Yang Wang, Michael W. Spellman; TITLE OF INVENTION: O-Fucosyltransferase NUMBER OF SEQUENCES: 17
; CORRESPONDERS 10.
; STREEF: 1 DNA Way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Wang Yang
APPLICANT: Wang Yang
APPLICANT: Spellman, Michael W.
TTTLE OF INVENTION: O-FUCOSYLtransferase
FILE REFERENCE: P1041P1D1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT FILING DATE: 1999-06-15
PRIOR APPLICATION NUMBER: US 08/798,741
PRIOR PILING DATE: 1997-11-26
SEQ ID NO 3
SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-333-729A-3
; Sequence 3, Application US/09333729A
; Patent No. 62709B7
; GENERAL INFORMATION:
LENGTH: 365 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
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US-09-333-729A-3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM CCOMPATIBLE COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Winbatin (Genentech) CURRENT APPLICATION DATA: US/08/978,741
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-NO. 6100076-1997
CLASSIFICATION: 43.5
PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/792498
FILING DATE: 31
FILING DATE: 31
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Squence 2, Application US/08978741
Patent No. 6100076
GENERAL INFORMATION:
APPLICANT: Yang Wang, Michael W. Spellman
TITLE OF INVENTION: O-Fucosyltransferase
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STREET: USA Way
CITY: South San Francisco
STREET: USA
STREET: USA
                                                                                                                                        Sequence 4, Application US/09333729A

Patent No. 6770997

GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Wang, Yang
APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-Fucosyltransferase
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT PILING DATE: 1999-106-15
PRIOR PPLICATION NUMBER: US 08/798,741
PRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
LENGTH: 61
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REGISTRATION NUMBER: 39,044
REFERENCE, FOCKET NUMBER: PIC
TELECOMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
CORGANISM: Homo Sapien
US-09-333-729A-4
                  61 H 61
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3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
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Pred. No. 1.6e-32;
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1.6e-32;
                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
COMPUTER: RC-DOS/MS-DOS
SOFFWARE: Winbatin (Genentech)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 295; DB; Pred. No. 1.6e-0; Mismatches
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APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-Fucosyltransferase
FILE REFERENCE: Pl041P1D1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT APPLICATION NUMBER: US/08/798,741
PRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
LENGTH: 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
FITLE OF INVENTION: O-Fucosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCATION: 15, 17, 38
CTHER INFORMATION: unknown amino acid
US-09-333-729A-5
                                                                                                                                                                                                                                                                       SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
FILING DATE: 26-No. 6100076-1997
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 5, Application US/09333729A Patent No. 6270987 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                     FILING DATE: 26-No. 6100076-15
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/792498
FILING DATE: 31
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 83.6%;
Best Local Similarity 91.5%;
Matches 54; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT ORGANISM: Cricetulus Grieseus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 91.5%;
Matches 54; Conservative
                                                               Genentech, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: 650/225-1489
TELEPAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                         CITY: South San Francisco
STATE: California
                     NUMBER OF SEQUENCES: 1
                                                                                   1 DNA Way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: unsure
LOCATION: 15, 17
                                                                                                                                                                    ZIP: 94080
                                                               ADDRESSEE:
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                                                                                                                                              COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13 MPAGSWDPAGYLLYCPCWGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 92
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                                                                                                                                                                                                                                                                                                                                                                                                         Score 353; DB 3; Length 397;
Pred. No. 2.2e-39;
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US-09-333-729A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 353; DB 3;
Pred. No. 2.2e-39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Wang, Yang
APPLICANT: Spellman, Michael W.
TITLE OP INVENTION: O-Fucosyltransferase
FILE REFERENCE: P1041PLD1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT FILING DATE: 1999-06-15
PRIOR PRILICATION NUMBER: US 08/798,741
PRIOR PILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
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Patent No. 610076
GENERAL INFORMATION:
GENERAL TANG Wang, Michael W. Spellman
                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
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      26-No. 6100076-1997
V: 435
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                                                                                 FILING DATE: 31
ATTORNEY/AGENT INFORMATION:
NAME: SYODOGA, CTalg G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1041
TELECOMMUNICATION INFORMATION:
TELEFONE: 650/252-1489
TELEFAX: 650/252-1489
TELEFAX: 650/252-9881
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
    FILING DATE: 26-No. 6100076-15
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/792498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
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Best Local Similarity 100.0%;
Matches 61; Conservative 0
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                                                                                                                                                                                                                                                                                                        : 397 amino acids
Amino Acid
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LENGTH: 397
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Matches
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Sequence 8, Application US/08978741

Sequence 8, Application US/08978741

Sequence 8, Application US/08978741

Patent No. 6100076

GENERAL INFORMATION:

TITLE OF INVENTION: O-FUCOSYltransferase

TUTHE OF SEQUENCES: 1

CORRESPONDENCE ADDRESS:

ADDRESSE: Genentech, Inc.

STREET: 1 DNA Way

CITY: South San Francisco

STATE: California

COUNTRY: USA

COMPUTER: EADORO

COMPUTER: BAD FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM FOC Comparatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: WinPatin (Genentech)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/978,741

FILING DATE: 26.No. 6100076-1997

CLASSIFICATION NUMBER: 08/792498

FILING DATE: 31

ATTORNEY/AGENT INFORMATION:

NAME: SOADOA, CTAB GG

REFERENCE/DOCKET NUMBER: 99,044

REFERENCE/DOCKET NUMBER: 99,044

REFERENCE/DOCKET NUMBER: 91

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELEFEX: 650/252-1489
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                                                                                                                                                         1 NQADHFLGSLAFAKLINRTLAVPPWIEYQHHKPPFTNLH 39
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Best Local Similarity 100.0%; Pred. No. 3.4e-21;
Matches 39; Conservative 0; Mismatches 0;
Best Local Similarity 100.0%; Pred. No. 3.4e-21; Matches 39; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Wang Yang
APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-PROCSYLtransferase
FILE REFREENCE: PLO141PIDL Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT FILING DATE: 1999-06-15
PRIOR APPLICATION NUMBER: US 08/798,741
PRIOR APPLICATION NUMBER: US 08/798,741
NUMBER OF SEQ ID NOS: 21
                                                                                                                                                                                                                                                                                                                   US-09-333-729A-13
; Sequence 13, Application US/09333729A
; Patent No. 6270987
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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, ORGANISM: Homo Sapien
US-09-333-729A-13
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LENGTH: 343
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US-09-270-767-45921
US-09-270-767-45921
Sequence 45921, Application US/09270767
Patent No. 6703491
GENERAL INFORMATION:
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
FILE REFERENCE: F118 Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE PATENTIN Ver. 2.0
SEQ ID NO 45921
LENGTH: 399
        3 AGSWDLAGYLLYXPXMGRFGNQADHFLGSLAFAKLXVRTLAVPPWIEYQHHKPPFTNLH 61
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winherin (Genentech)
CURENT APPLICATION DATA:
APPLICATION NUMBER: US/08/978,741
FILMG DATE: 26-NO. 6100076-1997
CLASSIFICATION: 435
PRIOR APPLICATION UNDER: 08/792498
RILING DATE: 31
ATTORNEY/AGENT INFORMATION:
NAME: SYODOGIA, CTRIG G.
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 26,026,044
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US-09-270-767-45921
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SEQUENCE CHARACTERISTICS:
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TYPE: Amino Acid
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US-08-978-741-17
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US-09-333-729A-14
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                                                                                                       Score 123; DB 3; Length 474; Pred. No. 3.6e-08; 5; Mismatches 6; Indels
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Best Local Similarity 67.6%; Pred. No. 3.6e-08;
Matches 23; Conservative 5; Mismatches 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOCTWARE: WinPatin (Genentech) CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/978,741 FILING DATE: 26-No. 6100076-1997 CLASSIFICATION: 435 PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/792498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   166 GRFGNQVDQFLGVLAFAKALDRTLVLDNFIEFKH 199
                                                                                                                                                                                                19 GRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQH 52
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                                                                                                                                                                                                                                                                         RESULT 13
US-09-333-729A-12
US-09-333-729A-12
Sequence 12, Application US/09333729A
Sequence 12, Application US/09333729A
Sequence 12, Application US/09333729A
Sequence 12, Application US/09333729A
GENERAL INFORMATION:
TITLE OF INVENTION:
TITLE OF INVENTION:
CURRENT APPLICATION NUMBER: US/09/333, 729A
CURRENT APPLICATION NUMBER: US/09/333, 729A
SPRIOR APPLICATION NUMBER: US/09/333, 729A
NUMBER OF SEQ ID NOS: 21
LENGTH: 474
TYPE: PRIOR
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US-08-978-741-14
US-08-978-741-14

Sequence 14, Application US/08978741

PAPLECH NO. 6100076

GENERAL INFORMATION:

APPLICANT: Yang Wang, Michael W. Spellman

TITLE OF INVENTION: O-Fucosyltransferase

WUMBER OF SEQUENCES: 17

CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Caenorhabditis Elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 31
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Genentech, Inc. STREET: 1 DNA Way CITY: South San Francisco STATE: California COUNTRY: USA
                                                                                                       Query Match
Best Local Similarity 67.6%;
Matches 23; Conservative 5
LENGTH: 474 amino acids
TYPE: Amino Acid
                                         TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-333-729A-12
                                                                US-08-978-741-8
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CTHER INFORMATION: Plasmid insert encoded protein.
NAME/KEY: unsure
LOCATION: 23, 25
COTHER INFORMATION: unknown amino acid
US-09-333-729A-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 101; DB 3;
Pred. No. 1.1e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Wang, Yang
APPLICANT: Wang, Yang
APPLICANT: Spellman, Michael W.
TITLE OF INVENTION: O-Fucosyltransferase;
FILE REFERENCE: P1041P1D1-Substitute
CURRENT APPLICATION NUMBER: US/09/333,729A
CURRENT FILING DATE: 1999-06-15
PRIOR APPLICATION NUMBER: US 08/798,741
PRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 21
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REFERENCE/DOCKET NUMBER: P1041P1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 14, Application US/09333729A Patent No. 6270987
                                                                                                                                                                                                                                                                                                                                       1 MPAGSWDPAGYLLYCPCMGR 20
                                                                                                                                                                                                                                                                                                                                                                   9 MPAGSWDPAGYLLYXPXMGR 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MPAGSWDPAGYLLYCPCMGR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9 MPAGSWDPAGYLLYXPXMGR 28
                                   TELEPHONE: 650/225-1489
TELEFAX: 650/955-9881
INFORMATION FOR SEQ ID No: 14: SEQUENCE CHARACTERISTICS: LENGTH: 28 amino acids
TYPE: Amino Acid
                     TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEFAX: 650/952-9881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28.6%;
90.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 28.6
Best Local Similarity 90.0
Matches 18; Conservative
                                                                                                                                                                             TOPOLOGY: Linear
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OLASO MANA BARA (USETO)

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October 25, 2005, 15:20:23; Search time 38.8296 Seconds (without alignments) 607.588 Million cell updates/sec
                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                               1 MPAGSWDPAGYLLYCPCMGR.....LAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                                                                                                                                                                                                         2105692
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                    2105692 segs, 386760381 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                           OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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geneseqp2003as:*
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                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB seq length: 0
Maximum DB seq length: 200000000
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353
                                                                                                                                                                                              Title:
Perfect score:
                                                                                                                                                                                                                                                                           Scoring table:
                                                                                                                                                                                                                                                                                                                                  Searched:
                                                                                                                                                                                                                                       Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Database
                                                                                                                     Run on:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

|           | Description                | Aaw80574 N-termina | _        | Abm82223 Tumour-as |          |          |          | _        |          |          |          | •        |          |          | Abm69163 Photorhab | Abu34983 Protein e |          |          | •        | Aab33303 Pinus rad | Adk48560 Streptoco |          |          |          | _        | Abu45987 Protein e |
|-----------|----------------------------|--------------------|----------|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--------------------|--------------------|----------|----------|----------|--------------------|--------------------|----------|----------|----------|----------|--------------------|
| SUMMARIES | ID                         | AAW80574           | AAW80571 | ABM82223           | AAW80573 | AAW80572 | AAM78377 | AAM79361 | ABB63790 | AAW80577 | AAY87325 | AAW80575 | ABB97437 | ABU35781 | ABM69163           | ABU34983           | ADL05369 | ADN25627 | AAR63066 | AAB33303           | ADK48560           | ABU01274 | ADR94975 | AAU37750 | AAU38005 | ABU45987           |
|           | DB                         | 2                  | ~        | œ                  | ~        | 7        | 4        | 4        | 4        | ~        | ٣        | 7        | വ        | 9        | 9                  | 9                  | œ        | œ        | N        | m                  | æ                  | ø        | 80       | 4        | 4        | 9                  |
|           | %<br>Query<br>Match Length |                    | 365      | 388                | 397      | 61       | 417      | 417      | 402      | 343      | 150      | 28       | 1561     | 223      | 366                | 191                | 205      | 580      | 340      | 412                | 737                | 741      | 763      | 767      | 767      | 167                |
|           | %<br>Query<br>Match        | 100.0              | 100.0    | 100.0              | 100.0    | 83.6     | 68.4     | 65.0     | 63.2     | 61.8     | 34.0     | 28.6     | 19.7     | 18.3     | 18.1               | 18.0               | 18.0     | 18.0     | 17.7     | 17.6               | 17.1               | 17.1     | 17.1     | 17.1     | 17.1     | 17.1               |
|           | Score                      | 353                | 353      | 353                | 353      | 295      | 241.5    | 229.5    | 223      | 218      | 120      | 101      | 69.5     | 64.5     | 64                 | 63.5               | 63.5     | 63.5     | 62.5     | 62                 | 60.5               | 60.5     | 60.5     | 60.5     | 60.5     | 60.5               |
|           | Result<br>No.              | 1                  | 8        | М                  | 4        | ហ        | 9        | 7        | 89       | σ        | 10       | 11       | 12       | 13       | 14                 | 15                 | 16       | 17       | 18       | 19                 | 20                 | 21       | 22       | 23       | 24       | 25                 |

|          | Aaw97416 A membran | Abu36823 Protein e | Abu34438 Protein e | Abu33866 Protein e | Aay91094 Human G p | Aau08997 Human G p | _        | Aam51415 Human OT7 | Abb79864 Human G-p | Abp97222 Tumour-as | Abp81995 Human G p | Adn39505 Cancer/an | Adn39430 Cancer/an | Adg19755 Human G p | Human    | Ado29412 Human GPC | Adq89080 Human uro | Adr21325 Human met | Adt05941 Human OT7 |  |
|----------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------|--------------------|--------------------|--------------------|--------------------|--|
| AAY81596 | AAW97416           | ABU36823           | ABU34438           | ABU33866           | AAY91094           | AAU08997           | AAE03544 | AAM51415           | ABB79864           | ABP97222           | ABP81995           | ADN39505           | ADN39430           | ADG19755           | ADL91585 | AD029412           | ADQ89080           | ADR21325           | ADT05941           |  |
|          |                    |                    |                    |                    |                    |                    |          |                    |                    | 9                  |                    |                    |                    |                    |          |                    |                    |                    |                    |  |
| 768      | 783                | 198                | 198                | 198                | 398                | 398                | 398      | 398                | 398                | 398                | 398                | 398                | 398                | 398                | 398      | 398                | 398                | 398                | 398                |  |
| 7.1      | 7.1                | 6.9                | 6.5                | 6.                 | 6.                 | 0.                 | 6.9      | 6.9                | 6.3                | 16.9               | 6.9                | 6.                 | 6                  | 6.0                | 6.9      | 6.9                | 6.9                | 6.9                | 6.9                |  |
| 7.       | H                  | ĭ                  | ĭ                  | Ä                  | Ä                  | ň                  | Ä        | Ä                  | ř                  | ř                  | Ä                  | ř                  | ĭ                  | 'n                 | 1        | ī                  | ñ                  | Ä                  | Ä                  |  |
| 9.0      | 60.5               | 5.6                | 5,6                | 5                  | 59.5               | 5                  | 59.5     | 5                  | 59.5               | 59.5               | 59.5               | 5                  | 2.6                | 5.0                | 5.6      | 5                  | 5.6                | 6                  |                    |  |
| 9        | 9                  | S                  | Ľ                  | ı LC               | i un               | ı un               | Ľ        | · CT               | · L/I              | ιcη                | u)                 | u)                 | i un               | 'n                 | ď        |                    | S                  | 41                 | u)                 |  |
| 26       | 27                 | 28                 | 50                 | 30                 | 3                  | 35                 | 33       | 34                 | 35                 | 36                 | 37                 | 38                 | 39                 | 40                 | 41       | 4                  | 4                  | 44                 | 45                 |  |
|          |                    |                    |                    |                    |                    |                    |          |                    |                    |                    |                    |                    |                    |                    |          |                    |                    |                    |                    |  |

## ALIGNMENTS

Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving overexpression of the enzyme. N-terminal amino acid sequence of human heart O-fucosyltransferase. O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart. AAW80574 standard; peptide; 61 AA. Claim 4; Page 69; 90pp; English. 97WO-US023401. 97US-00792498. 97US-00978741. (first entry) (GETH ) GENENTECH INC. Wang Y, Spellman MW; WPI; 1998-437477/37. Homo sapiens. WO9833924-A1. 17-DEC-1997; 31-JAN-1997; 26-NOV-1997; 16-DEC-1998 06-AUG-1998 AAW80574; RESULT 1 AAW80574 

fucosyltransferase that can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG odemains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-This represents a the N-terminal sequence of the human heart Ofucosyltransferase

Sequence 61 AA;

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1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 60
                                                                                                                    RESULT 3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This represents a human heart O-fucosyltransferase that can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of o-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-fucosyltransferase
                                                                                   9
                                                                                                   1 MPAGSWDPAGYLLYCPCWGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving
                                                                                 1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
                                                   Gaps

    .61
    /note= "N-terminal sequence claimed for in claim 4"

                                                                                                                                                                                                                                                                                                                                                                                              O-fucosyltransferase, epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart.
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                    Length 61;
                  Query Match 100.0%; Score 353; DB 2; Length 6: Best Local Similarity 100.0%; Pred. No. 4.8e-40; Matches 61; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ch 100.0%; Score 353; DB 2; Similarity 100.0%; Pred. No. 3.8e-39; 61; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                 AAW80571 standard; protein; 365 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 1; Fig 12A; 90pp; English.
                                                                                                                                                                                                                                                                                                                                                                 Human heart O-fucosyltransferase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             overexpression of the enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97US-00792498.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97WO-US023401
                                                                                                                                                                                                                                                                                                                               16-DEC-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Spellman MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1998-437477/37.
N-PSDB; AAV65632.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 365 AA;
                                                                                                                                                  61 H 61
                                                                                                                                                                                 61 H 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO9833924-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               31-JAN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06-AUG-1998.
                                                                                                                                                                                                                                                                                                AAW80571;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wang Y,
                                                                                                                                                                                                                                   RESULT 2
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The invention relates to human tumour-associated antigenic target (TAT) Cypeptides and their related nucleic acids. The TAT polypeptides are overexpressed in cancer tiseated nucleic acids. The TAT polypeptides are serve as effective targets for the diagnosis and treatment of cancer in ammals. The invention also relates to nucleic acid and polypeptide mammals. The invention also relates to nucleic acids and polypeptide cacids and also relates to nucleic acids and polypeptide or organic molecule which binds to a TAT polypeptide; appetide or organic molecule which binds to a TAT polypeptide; tuaion proteins comprising a TAT nucleic acids, and methods and compositions for the treatment or diagnosis of cancer in mammals. TAT polypeptides, nucleic acids, antibodies, antagonists, binding molecules and compositions are useful or diagnosis or treating a cell proliferative disorder associated with increased TAT expression, particularly cancers such as breast cancer, coloractal cancer, lung cancer, ovarian cancer, lure cancer, bladder coloractal cancer, lung cancer, ovarian cancer, lure central nervous system, melanoma and leukaemia. TAT nucleic acids may further be used as hybridisation probes, in chromosome and gene mapping, in chromosome identification and in gene therapy. The present sequence
                                                                                                                                                                                                                                                                        Tumour-associated antigenic target (TAT) polypeptide PRO83146, SEQ:5726.
                                                                                                                                                                                                                                                                                                            Tumour-associated antigenic target; TAT; human; overexpression; cancer; tumour; diagnosis; cell proliferative disorder; breast cancer; colorectal cancer; lung cancer; overtan cancer; liver cancer; ecrtral nervous system cancer; bladder cancer; pancreatic cancer; certral ancer; malanoma; leukaemia; hybridisation probe; chromosome identification; chromosome identification; chromosome mapping; gene mapping;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New tumor-associated antigenic target polypeptides and nucleic acids, useful in preparing a medicament for treating or detecting a proliferative disorder, e.g. breast, lung, colorectal, ovarian or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 353; DB 8; Length 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 12; SEQ ID NO 5726; 7273pp; English.
                                                                                                                                                ABM82223 standard; protein; 388 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29-SEP-2003; 2003WO-US028547.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-OCT-2002; 2002US-0414971P.
                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Zhou Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         prostate cancer or tumor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2004-347921/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wu TD, Zhang Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; ACN40746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 388 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO2004030615-A2
61 H 61
                                      61 H 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens,
                                                                                                                                                                                                                                  18-NOV-2004
                                                                                                                                                                                         ABM82223;
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Gaps

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0; Indels

Best Loc Matches

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1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLANTLAVPPWIEYQHHKPPFTNL

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Matches
                                                                              RESULT 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       fucosyltransferase expressed by a plasmid insertion. The human Officosyltransferase can glycosylate an epidermal growth factor (EGF) fucosyltransferase can glycosylate an epidermal growth factor (EGF) of placesyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of Oftwosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for Oftwosyltransferase.
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                              9
                                         24 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving
                             1 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL
                                                                                                                                                                                                        Human O-fucosyltransferase sequence expressed by a plasmid insertion.
         Gaps
                                                                                                                                                                                                                            O-fucosyltransferase; epidermal growth factor; EGF; glycosylation; O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart.
         ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This represents the amino acid sequence of the human heart O-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 353; DB 2; Length 397; 100.0%; Pred. No. 4.2e-39; ive 0; Mismatches 0; Indels
         Indels
100.0%; Pred. No. 4.1e-39; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                       27. .32
/note= "polyhistidine tag"
                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                              AAW80573 standard; protein; 397 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example; Fig 13B; 90pp; English
                                                                                                                                                                                                                                                                                                                                                                                                  97US-00792498.
97US-00978741.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           overexpression of the enzyme
                                                                                                                                                                                                                                                                                                                                                                              97WO-US023401
                                                                                                                                                                                      (first entry)
           61; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                 (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Spellman MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1998-437477/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ucosyltransferase
 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; AAV65633
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26-NOV-1997;
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                                                                                                                                                                                                                                                                           Synthetic
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                                                                                                                                                                   AAW80573;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wang Y,
   Best Local
                                                                                                                                                                                                                                                                                                       Peptide
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           Matches
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33 MPAGSWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNL 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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                                                                                                                                                                                                                                                                                                                                                   N-terminal amino acid sequence of CHO O-fucosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
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Pred. No. 3.8e-32;
0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                             AAW80572 standard; peptide; 61 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'note= "unknown"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 5; Page 69; 90pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'note= "unknown"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     overexpression of the enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ch 83.6%;
1 Similarity 91.5%;
54; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Spellman MW;
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                                                                           H 61
                                                                                                                    93
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
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                                                                           61
                                                                                                                    93
                                                                                                                                                                                                                                                                       AAW80572
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Conservative

Best\_Local Similarity Matches 61; Conserv

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AAM79361 standard; protein; 417 AA.

AAM79361

(first entry)

06-NOV-2001

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The invention relates to polynucleotides (AAK51456-AAK53435) and the encoded polypeptides (AAM78323-AAM80302) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, hammatopoiesis regulating activity tissue growth factor activity, immunomodulatory activity and activity, tissue growth factor activity, immunomodulatory activity and activity, issue growth factor activity, immunomodulatory activity and activity independent of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: Records for SQQ ID NO 2110 (AAK52581), 2111 (AAK52582) and 3666 (AAM80202) are omitted as the relevant pages from the sequence listing were missing at the time of publication
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nucleic acids encoding polypeptides with cytokine-like activities, useful in diagnosis and gene therapy.
                                                                                                                                                                                        Human, cytokine, cell proliferation, cell differentiation, gene therapy, vaccine, peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorder; arthritis; inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tang YT, Liu C, Drmanac RT, Asundi V, Zhou P, Xu C, Cao Y; Ma Y, Zhao QA, Wang D, Wang J, Zhang J, Ren F, Chen R, Wang ZW; Xue AJ, Yang Y, Wejhrman T, Goodrich R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          / Match 68.4%; Score 241.5; DB 4; Length 417; Local Similarity 76.7%; Pred. No. 6.8e-24; hes 46; Conservative 3; Mismatches 6; Indels 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 20; Page 3276-3277; 6221pp; English.
                                   AAM78377 standard; protein; 417 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      27-APR-2000; 2000US-00560875.
20-UTW-2000; 2000US-00598075.
19-UTL-2000; 2000US-005325.
01-SEP-2000; 2000US-00654936.
15-SEP-2000; 2000US-0065351.
20-CCT-2000; 2000US-0063325.
                                                                                                                                                       Human protein SEQ ID NO 1039.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-FEB-2000; 2000US-00496914
                                                                                                                                                                                                                                                                                                                                                                                                                05-FEB-2001; 2001WO-US004098
                                                                                                               06-NOV-2001 (first entry)
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                                                                                                                                                                                                                                                                                                                                     WO200157190-A2
                                                                                                                                                                                                                                                                                                 Homo sapiens.
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                                                                       AAM78377;
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RESULT 6
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7 DPAGYLLYCPCM----GRFGNQADHFLGSLAFAKLINRTLAVPPWIEYQHHKPPFTNLH 61

Best Loca Matches

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RESULT 7

5; Gaps

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The invention relates to polynuclectides (AAK51456-AAK53435) and the encoded polypeptides (AAW78323-AAM80302) that exhibit activity elating to production of other cytokines in other cell differentiation or which may induce production of other cytokines in other cell populations. The polynuclectides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, hematopoissis regulating activity, tissue growth factor activity, immunomodulatory activity and activity, inhibin activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: Records for SEQ ID NO 2110 (AAK52581), 2111 (AAK52582) and 3666 (AAM80802) are omitted as the relevant pages from the sequence listing were missing at the time of publication
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       54 DMATWPTHAPSVEEGGGGRFGNQADHFLGSLAFAKLLNRSLAVPSWIEYQHHKPPFTNLH 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nucleic acids encoding polypeptides with cytokine-like activities, useful in diagnosis and gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                 Human, cytokine, cell proliferation, cell differentiation, gene therapy, vaccine; peptide therapy; stem cell growth factor; haematopolesis, rissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorder; arthritis; inflammation.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7 DPAGYLLYCPCM-----GRFGNQADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH
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Chen R, Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               65.0%; Score 229.5; DB 4; Length 417;
llarity 73.3%; Pred. No. 2.9e-22;
Conservative 4; Mismatches 7; Indels 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Liu C, Drmanac RT, Asundi V, Zhou P, Xi
ao QA, Wang D, Wang J, Zhang J, Ren F,
Yang Y, Wejhrman T, Goodrich R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 20; Page 229-230; 6221pp; English.
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ID ABB63790 standard; protein; 402 AA.
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27-APR-2000; 2000US-00560875.
20-UNA-2000; 2000US-00596075.
19-UUL-2000; 2000US-00654936.
15-SEP-2000; 2000US-00654936.
15-SEP-2000; 2000US-0066325.
30-NOV-2000; 2000US-0069325.
                                                                                 Human protein SEQ ID NO 3007.
                                                                                                                                                                                                                                                                                                                   05-FEB-2001; 2001WO-US004098
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Les 44; Conserv
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Yang Y,
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                                                                                                                                                                                                                                               WO200157190-A2
                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tang YT, Liu
Ma Y, Zhao (
Xue AJ, Yang
                                                                                                                                                                                                                                                                                   09-AUG-2001
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Matches
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98US-0090762P.
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                                                   97WO-US023401.
                                                                                                         97US-00792498.
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Matches 39; Conservative
                                                                                                                                                                                          (GETH ) GENENTECH INC
                                                                                                                                                                                                                                             Spellman MW;
                                                                                                                                                                                                                                                                                                      WPI; 1998-437477/37.
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31-JUL-1998;
                                                      17-DEC-1997;
                                                                                                         31-JAN-1997;
                                                                                                                                      26-NOV-1997;
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06-AUG-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABLi6176-ABL30511), expressed DNA ABR72072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Partial human seguence of unknown function from a myeblast cell line.
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                                                                                                                                                                                            Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; SEQ ID NO 18162; 21pp + Sequence Listing; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                      melanogaster polypeptide SEQ ID NO 18162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63.2%; Score 223; DB 4;
84.4%; Pred. No. 2.2e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Myers EW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Li PWD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-MAR-2001; 2001WO-US009231.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23-MAR-2000; 2000US-0191637P.
11-JUL-2000; 2000US-00614150.
                                                                                     (first entry)
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nes 38; Conservative
                                                                                                                                                                                                                                                                                  Drosophila melanogaster.
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N-PSDB; ABL07893.
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                                                                                                                                                                                                                                  pharmaceutical
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Interactions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16-DEC-1998
                                                                                     26-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                            27-SEP-2001
                                                                                                                                               Drosophila
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Best Local S
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Matches

RESULT 9 **AAW80577** 

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This represents a published partial human sequence of unknown function from a myeblast cell line. The invention provides a human heart Ofencosyltransferase enzyme that can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-fucosyltransferase
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cirrhosis, psoriasis, acquired immune deficiency syndrome, anemia, asthma, Crohn's disease, infection, Alzheimer's disease, schlzophrenia, Parkinson's disease; Huntington's diseases; ovulatory defect;
Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61.8%; Score 218; DB 2; Length 343; 100.0%; Pred. No. 8.6e-21; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 NQADHFLGSLAFAKLLNRTLAVPWIEYQHHKPPFTNLH 39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23 NOADHFLGSLAFAKLLNRTLAVPPWIEYQHHKPPFTNLH
                                                                                                                                                                                               Example 1; Page 62-68; 90pp; English.
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ABB97437
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human signal peptide-containing proteins HSPP-1 to HSPP-134. HSPPs have attricancer: anti-inflammatory, antimicrobial, nocropic, heparotropic, neuroprotective, cardiovascular and antiasthmatic activities, and can be used in gene therapy. HSPPs can be used to treat or prevent disorders associated with decreased activity or function of HSPP. Antagonises of HSPP are used to treat or prevent disorders associated with increased activity or function of HSPP. Such diseases include call proliferation of HSPP. Such diseases include call proliferation cancer), inflammation, cardiovascular, neurological, reproductive or developmental disorders, (e.g. arteriosclerosis, cirthosis psoriasis, acquired immune deficiency syndrome, anaemia, astemma, crohn's disease, microbiam or other infections, congestive or schemma, cachine as Alzheimer's, Parkinson's or Hunthogical, diseases, schizophrenia, ovulatory defects, muscular dystrophy). HSPP nucleic acids can be used for the recombinant production of HSPP, for detecting HSPP in standard hybridisation amplification assays (for detecting HSPP in claim of the recombinant production of HSPP. for detecting HSPP and for chromosomal mapping. HSPP are also used to raise specific antibodies (Ab) and to screen for agoniets and antagonists or concentive created diseases (in usual immunoassays), as therapeutic antagonists, in competitive drug screens, and for purification of HSPP from natural competitive drug screens, and for purification of HSPP from natural competitive drug screens, and for purification of HSPP from natural
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                                                                                                                                                              New human signal peptide-containing proteins useful in treatment, prevention and diagnosis of e.g. cancer, inflammation and cardiovascular disease.
                                                                     Baughn MR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  O-fucosyltransferase, epidermal growth factor; EGF; glycosylation, O-fucose; inhibitor; sensory neuron; retinal neuron; human; heart.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-terminal sequence of expressed human O-fucosyltransferase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 34.0%; Score 120; DB 3; Length 150; Best Local Similarity 95.0%; Pred. No. 7.3e-08; Matches 19; Conservative 1; Mismatches 0; Indels
                                                                  Lal P, Tang YT, Gorgone GA, Corley NC, Guegler KJ, Bai
Akerblom IE, Au-Young J, Yue H, Patterson C, Reddy R,
                                                                                                                                                                                                                    Claim 1; Page 225-226; 327pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW80575 standard; protein; 28 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MPAGSWDPAGYLLYCPCMGR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24 MPAGSWDPAGYLLYCPCMGK 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "unknown
98US-0102686P.
98US-0112129P.
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                                         (INCY-) INCYTE PHARM INC.
                                                                                                                          WPI; 2000-160673/14.
N-PSDB; AAZ98210.
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01-OCT-1998;
11-DEC-1998;
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Synthetic.
                                                                                               Bandman O;
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This represents the N-terminal amino acid sequence of the human heart O-fucosyltransferase expressed by a plasmid insertion. The human O-fucosyltransferase can glycosylate an epidermal growth factor (EGF) domain of a polypeptide with an activated O-fucose residue. Inhibitors of O-fucosyltransferase, e.g. mutants with increased affinity for the EFG domains, are used in diagnosis and treatment of conditions associated with overexpression of O-fucosyltransferase, to promote survival of sensory (retinal) neurons. Probes based on EGF domain polypeptide are used to detect gene amplification and expression. The expression can also be determined at the protein level using antibodies specific for O-fucosyltransferase
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human O-fucosyl:transferase able to glycosylate epidermal growth factor domains - useful for diagnosis and treatment of diseases involving voverexpression of the enzyme.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABB97437 standard; protein; 1561 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel human protein SEQ ID NO: 705.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 1; Page 39; 90pp; English.
Misc-difference 25
/note= "unknown"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10-SEP-2001; 2001WO-US026015.
                                                                                                                                                                                                           97WO-US023401
                                                                                                                                                                                                                                                                     97US-00792498
97US-00978741
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es 18; Conservative
                                                                                                                                                                                                                                                                                                                                                          (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                   Spellman MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1998-437477/37.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 28 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200222660-A2
                                                                                                                                                                                                                                                                     31-JAN-1997;
26-NOV-1997;
                                                                                                                                                                                                           17-DEC-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                             Wang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Loca
Matches
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Duchaud E, Taourit S, Glaser P, Frangeul L, Kunst F,
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                                                                                                                                                                               The present invention provides the protein and coding sequences of 444 novel human proteins. These were isolated from expressed sequences tags (ESTS). They can be used to stimulate cell growth, to regulate haematopoiesis e.g. to treat aplastic anaemia, to help tissue regrowth e.g. in burn treatment, to regulate the immune system e.g. to treat multiple sclerosis, to regulate activin or inhibin e.g. to treat infertility, to regulate haemostasis or thrombolysis e.g. to treat and cancer, to screen for drugs, to treat inflammatory conditions e.g. rheumatoid arthritis, and to treat nervous system disorders e.g. parkinson's disease. The present sequence is a protein of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Antisense; prokaryotic essential gene; cell proliferation; drug design.
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Xu HH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    An isolated polynucleotide for treating diseases associated with its encoded polypeptide such as cancer and multiple sclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                5 SWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLLNRTLAVPP---WIEYQHHKPP 56
              Ren F;
                                                                                                                                                                                                                                                                                                                                                                                                                    6
                                                                                                                                                                                                                                                                                                                                                                                      Score 69.5; DB 5; Length 1561;
Pred. No. 8.4;
                                                                                                                                                                                                                                                                                                                                                                                      19.7%; Score 69.5; DB 5; Length 1:
ilarity 29.1%; Pred. No. 8.4;
Conservative 7; Mismatches 23; Indels
              Zhao QA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ohlsen KL,
Forsyth RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein encoded by Prokaryotic essential gene #21308.
            Zhou P, Asundi V, Zhang J,
Wehrman T, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Haselbeck R,
Yamamoto R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 25; SEQ ID NO 63705; 1766pp; English
                                                                                                                                                     Claim 20; SEQ ID NO 705; 509pp; English
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Carr GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001US-00948993.
2001US-0342923P.
2002US-00072851.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Zamudio C,
Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mycobacterium leprae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-029926/02.
N-PSDB; ACA39651.
                                                             2002-292408/33
                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
es 16; Conserv
                Tang YT, Liu C,
Xue AJ, Yang Y,
                                                                                                                                                                                                                                                                                                                                                          Sequence 1561 AA;
                                                                         N-PSDB; ABN32623
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08-FEB-2002;
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Wall D,
                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression (of the nucleic acid inhibites proliferation of a cell. Also included are:

(1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (3) a host cell containing the vector; (3) an isolated polypeptide or its fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular proliferation or that that an an operon required for proliferation or that has an activity against a biological pathway required for proliferation, or that inhibits cellular proliferation; (8) identifying a compound that influence the activity of the gene product or that has an activity against a biological pathway required for proliferation. The inhibits cellular proliferation of an organism acts agene or that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profilling a compound's activity; (11) a culture comprising strains in which the gene or compound's activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent compound; a compound's activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent compound; activity; (11) a culture comprising strains in which the gene product or collection of a compound, a detiritying proteins or screening for homologous nucleic acids are useful for strains; or (13) identifying the Larget of a compound that inhibits the proliferation to isolate candidate molecules for rational drug discovery programs, or for screening for homologous nucleic acids are useful for cellular proliferation in cells other than S. aureus, S. typhimuring, a the exercing to the proliferation in elec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ij
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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(CNRS ) CNRS CENT NAT RECH SCI
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Best Local Similarity
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Danchin A;

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The invention relates to the isolation of genes and their encoded proteins from Photorhabdus luminescens. The isolated sequences are sources of probes and primers for detecting the geneme of P. Luminescens and related species; to study polymorphisms; for gene analysis and for detection/amplification of the genes. Antibodies (Ab) raised against the polypeptides encoded by the genes are used for detection/identification of P. Luminescens, e.g. in foods. The genes, proteins, Ab and cells that carry a gene-containing vector are used for detection/identification of P. Luminescens, e.g. in foods. The genes, proteins, Ab and cells that carry a gene-containing vector are used to select compounds that animals or microcrganisms other than P. Luminescens and are able to alter response or sensitivity to toxins and antibiotics produced by P. Luminescens. Cells transformed to express the genes are useful for recombinant production of the proteins, particularly toxins and cantibacterials useful as insecticides, bactericides and fungicides. The genes, proteins, vectors containing the genes and Ab are also useful therapeutically (to treat microbial infection by bacteria or fungi that are sensitive to P. luminescens encoded toxins or antibiotics) and as biopesticides. Other uses of the genes and the proteins are as virulence factors and for identifying targets of human diseases for which P. Luminescens a model (particularly plaque and whooping cough). This sequence represents one of the isolated P. luminescens proteins
                                                                                                      Genomic sequence of Photorhabdus luminescens and encoded polypeptides, useful e.g. as therapeutic antimicrobials and agricultural pesticides.
                                                                                                                                                                                   Claim 2; SEQ ID NO 2260; 1205pp; French
                                                   WPI; 2003-148459/14.
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5 SWDPAGYLLYCPCMGRFGNQADHFLGSLAFAKLINRTLAV--------PPWI 48 Gaps 20; 18.1%; Score 64; DB 6; Length 366; 33.3%; Pred. No. 8.7; ive 6; Mismatches 16; Indels ABU34983 standard; protein; 191 AA. Query Match
Best Local Similarity 33.3.
Best Local 21, Conservative
The Conservative

Antisense; prokaryotic essential gene; cell proliferation; drug design. Protein encoded by Prokaryotic essential gene #20510. 21-MAR-2002, 2002WO-US009107. 21-MAR-2001, 2001US-00815242. 06-SEP-2001, 2001US-00948933. 25-OCT-2001, 2001US-0342923P. 08-FEB-2002, 2002US-00072851. 06-MAR-2002, 2002US-0362699P. (first entry) (ELIT-) ELITRA PHARM INC. Moraxella catarrhalis. 03-OCT-2002. 

The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the mucleic acid inhibites proliferation of a cell. Also included are: (1) a vector comprising a promoter operably linked to the nucleic acid concluded are: (2) a host cell containing the vector; (3) an isolated proliferation or uncleic acid; (2) a host cell containing the vector; (3) an isolated proliferation or ties fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular proliferation or the activity of a gene in an operon required for proliferation, or that has an activity against a biological pathway required for proliferation, or that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway in which ha proliferation or that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a compound that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a compound sactivity; (11) a culture comprising strains in which the gene product is oversepressed; or underexpressed; (12) determining the extent product is oversepressed; or underexpressed; (12) determining the extent compound that inhibits the compound that inhibits proliferation of an organism or underexpressed; (12) determining the extent compound that inhibits and ensure activity in the arrition of an organism. The antisense nucleic acids required for cellular proliferation to isolate candidate molecules for required for cellular proliferation to isolate candidate molecules acids required for a compound that inhibits and a proper and a proper and the property and a property or the strains or the strains or the strains or the strains or the strains or the strains or the strains or streening for homologous nucleic acids are useful. New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs. drug discovery programs, or for screening homologous nucleic acids required for proliferation in cells other than S. aureaus, S. typhimurium, K. pneumoniae or P. aeruginosa. The present sequence is encoded by one of the target prokaryotic essential genes. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at in electronic format directly from WIPO at Zyskind JW; Xu HH; Ohlsen KL, Forsyth RA, Haselbeck R, Yamamoto R, Claim 25; SEQ ID NO 62907; 1766pp; English. Malone C, Carr GJ, Zamudio C, Trawick JD, 2003-029926/02. 

Gaps 13; 25 ADH-----FLGSLAFAKLLNRTLAVPPWI----EYQHHK--PPFTNL 60 18.0%; Score 63.5; DB 6; Length 191; llarity 38.8%; Pred. No. 4.8; Conservative 4; Mismarches 13; Indels 13 Local Similarity les 19; Conserv Query Match Best Local Si Matches 19 ð

Sequence 191 AA;

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68 AEHEAASCGEILDEVAIKKILNMPLRAPMIIVIATEYQYHKKVPPFEQL 116 g

Search completed: October 25, 2005, 15:30:42 Job time : 40.8296 secs